

FIGURES**Figure 1****hDAO-wildtype**

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKRKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
(SEQ ID NO:1)

hDAO-Hepmut1

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKRKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
(SEQ ID NO:2)

hDAO-Hepmut2

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
(SEQ ID NO:3)

hDAO-Hepmut3

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
(SEQ ID NO:4)

Figure 1 continued
hDAO-Hepmut4

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKTKLPKYLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAI
TWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:5)

hDAO-Hepmut5

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKTKLPKYLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAI
TWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:6)

hDAO-Hepmut6

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFGQTLPKYLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:7)

hDAO-Hepmut7

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPCYMRALSPRPGYQSS
WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:8)

Figure 1 continued

hDAO-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKRKLKPYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFEEQLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
(SEQ ID NO:9)

hDAO-Hepmut1-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKRKLKPYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFEEQLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
(SEQ ID NO:10)

hDAO-Hepmut2-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFEEQLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
(SEQ ID NO:11)

hDAO-Hepmut3-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
WASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFEEQLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
(SEQ ID NO:12)

Figure 1 continued

hDAO-Hepmut4-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGP**AY**MRALSPRPGYQSS
WASRPSTAHEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLG SVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLH LTHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAI
TWARYPLAVTKYRESELCS SSIYHQNDPWHPVVF EQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:13)

hDAO-Hepmut5-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGP**AY**MRALSPRPGYQSS
WASRPSTAHEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLG SVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLH LTHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAI
TWARYPLAVTKYRESELCS SSIYHQNDPWHPVVF EQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:14)

hDAO-Hepmut6-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGP**AY**MRALSPRPGYQSS
WASRPSTAHEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLG SVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLH LTHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFRF**GQ**TLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCS SSIYHQNDPWHPVVF EQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:15)

hDAO-Hepmut7-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGP**AY**MRALSPRPGYQSS
WASRPSTAHEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLG SVTHELAPGIDCPETATFLDTFHYYDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAK
MHATGYVHATFYTPEGLRHGTRLH LTHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
RVVQPTLEQTQYSWERQAAFSFKRKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
ITWARYPLAVTKYRESELCS SSIYHQNDPWHPVVF EQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPPFSYNGTYRPV
(SEQ ID NO:16)

Figure 1 continued

hDAO-wildtype

atgccggccctgggctgggctggctgccatcctgatgtgcagacggccatggcggagccctccccgggactctgcccaggaa
ggcaggggtgttttcagacctaagcaaccaagagctgaaggcagtgacagcttctctgttccaagaaggagctgaggctgcagccctccagt
accaccaccatggccaagaacaccgtgtttctcatcgagatgctgctgccaagaagtaccatgtgctgaggtttctggataaaggtaaggcat
cctgtgctgggaagcccgtgccgtcatcttcttggtagaccaggagcatcccaatgtcaccgagtttctgtggtgggcccctgccagggccctgctaca
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gaagccaccaagcccctgcatcagttcttctcaataccacaggcttctcattccaagactgccaatgacagatgcttgcccttaccgatgtggccc
cccgggggtgtgcttctggccagcgccgagttggcttatcatacagcgctatgtagaaggctactttctgcacccactgggctggagctcctctg
gatcatgggagcacagatgctgggactgggctgggagcagggtgtgtacaacgggaagtctatgggagccagaggaactggctcggaa
gtatgcagatggagaggtggacgtgtgtctggaggaccctgctgctggggcaaggggcatgacagcacagaggagccgcccctctctc
ctcccacaagcccgcggggacttcccagccccatccatgtgagcggccccgctgtgtccagccccacggccctcgcttcaggctggagg
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gcctatgaggctcagctgcaagaggcagtgccgtgtatggaggacacacactgcaggcatgcagaccaagtacctcgatgtcggctggggc
ctgggcagcgctactcatgagttagcccccgcatcgactgcccgagacccgacacttctggacacttccactactatgatgcccgatgaccgc
gtccattatccccgagccctctgctcttgaatgccacaggggtgcccttccggcgacatttaattccaacttaagggtgttcaactctatg
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Figure 1 continued

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NO:19)

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Figure 1 continued

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Figure 1 continued

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Figure 1 continued

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NO:25)

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NO:26)

Figure 1 continued

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Figure 1 continued

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Figure 1 continued

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cggtccattatccccgagccctctgcctcttgaatgccacaggggtgccccttcggcggcactttaattccaactttaagggtggttcaactcta
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ggaggccaagatgatgcactgtgtacgtccacgccaccttctacacccccgaggggtgcgcccacggcactgcgctgcacaccacctgat
ggcaacatacacactcactgtgtgactaccgctgtagacctggatgtggcaggcaccagaacagcttccagacactgcagatgaagctagaa
aacatcaccaacccctggagcccaagacaccgctgtgtccagccaactctggagcagacgcagtagtctctgggagcgccaggcgccctccg
ctt**gggacagacg**ctgcccgaagtacctgtcttaccagccccagggagaacccctggggccacaagcgagctaccgctgcagatccactc
catggccgacaggtgtgtgtccccaggctggcaggaggagcaggccatcacctggggcaaggtagcccttggcagtgaccaagtaccgggag
tcggagctgtgcagcagcagcatctaccaccagaacgaccttggcaccgcccgtgtgtttagcagtttctcacaacaacgagaacattga
aaatgaggacctgtgtgctgggtgacggtgggttctctgcacatccccactcagaggacattcccaacacagccacacctgggaactccgtg
ggcttctgtctccggccattcaacttctccagaggaccttccctggcatccagagacactgtgatcgtgtggctcgggacaacggccccaac
tacgtccagcgctggatccctgaggacagggactgctcgatgctcccccttttagctacaatgggacctatagacctgtgtga (SEQ ID
NO:31)

hDAO-Hepmut7-Cysmut

atgccggccctgggctgggctggctgccatcctgatgtgcagacggccatggcgagccctccccgggactctgcccaggaa
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accaccaccatggccaagaacaccgtgtttctcatcgagatgtgctgcccagaagtagcatgtgctgaggtttctggataaaggtaaggcat
cctgtgcccgaagcccgtgcccgtcatcttctgtgaccaggagcatcccaatgtcaccgagttgtgtggggccctgccaggggccc**g**cttac
atgcgagcactgtccccaggcctgggtaccagtctcctgggcatcgaggcccatctccacagcagagtatgccctctctaccacacctgca
ggaagccaccaagcccctgcatcagttctctcaataccacagggtctctcattccaagactgccatgacagatgctgtgcttaccgagtgtggcc
ccccgggtgtgtctctggccagcgccgcagttggcttatcatcacagcgctatgtagaaggctactttctgcaccccactgggtggagctcctctg
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agtatgcagatggagaggtggagctgtgtgtctggaggaccgctgcctgggggcaaggggcatgacagcacagaggagccgcccctctc
tctcccaacaagccccggggacttccccagccccatccatgtgagcgcccccgctgtgtccagccccacggccctcgcttcaggctggagg
gcaacgctgtgtctacggcggtggagcttggcttccggctgcgtctctctccgggctgcaggctcgaacgtgcacttcggcgagagcgca
ttgcctatgaggtcagcgtgcaagaggcagtggtgtgtatggaggacacacacctgcaggcatgcagaccaagtacctcgatgtcggtggg
gcttgggagcgtcactcatgagttagccccggcatcgactgcccggagaccgccaccttcttgacactttccactactatgatccgatgacc
cggtccattatccccgagccctctgcctcttgaatgccacaggggtgccccttcggcggcactttaattccaactttaagggtggttcaactcta
tgccgggtgaagggccaggtgtgtgtgtcggaacacttcaactgtctacaattatgattacatttgggactttatcttaccaccaacgggtgat
ggaggccaagatgcatgccactggctacgtccacgcaccttctacacccccgaggggtgcgcccacggcactgcgctgcacaccacctgatt
ggcaacatacacactcactgtgtgactaccgctgtagacctggatgtggcaggcaccagaacagcttccagacactgcagatgaagctagaa
aacatcaccaacccctggagcccaagacaccgctgtgtccagccaactctggagcagacgcagtagtctctgggagcgccaggcgccctca
gcttcaaaaggaagctgccc**acgt**actgtcttaccagccccagggagaacccctggggccacaagcgagctaccgctgcagatccact
ccatggccgaccaggtgtgtccccaggctggcaggaggagcaggccatcacctgggcaaggtacccttggcagtgaccaagtaccggga
gtcggagctgtgcagcagcagcatctaccaccagaacgaccttggcaccgcccgtgtgtttagcagtttctcacaacaacgagaacattg
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gggttctgtctccggccattcaacttctccagaggaccttccctggcatccagagacactgtgatcgtgtggctcgggacaacggccccaa
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NO:32)

Figure 1 continued

Fc-hDAO

**MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYS
KLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTE**PSPGTLPRKAGVFS
DLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF
LDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRP
ISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVA
PRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEP
PLFSSHKPRGDFPSPIHVS
GPRLVQPHGPRF
RLEGN
AVLYGGWSFAFRLRSS
SGLQVLNVHFGGERIAEVS
VQEAVALYGGHTPAGMQTKYLDV
GWGLGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR
TTSTVYNYDYIWD
FIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH
THLIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVQPTLEQTQYSWERQAAFRKRLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS
SSSIYHQNDPWHPPVVF
EQFLHNNENIENEDLV
AWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPF
SYNGTYRPV (SEQ ID NO:39)

Fc-hDAO-Hepmut1

**MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYS
KLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTE**PSPGTLPRKAGVFS
DLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF
LDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRP
ISTA
EYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVA
PRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEP
PLFSSHKPRGDFPSPIHVS
GPRLVQPHGPRF
RLEGN
AVLYGGWSFAFRLRSS
SGLQVLNVHFGGERIAEVS
VQEAVALYGGHTPAGMQTKYLDV
GWGLGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR
TTSTVYNYDYIWD
FIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH
THLIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVQPTLEQTQYSWERQAAFSKFRKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS
SSSIYHQNDPWHPPVVF
EQFLHNNENIENEDLV
AWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPF
SYNGTYRPV (SEQ ID NO:40)

Fc-hDAO-Hepmut2

**MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYS
KLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTE**PSPGTLPRKAGVFS
DLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF
LDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRP
ISTA
EYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVA
PRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEP
PLFSSHKPRGDFPSPIHVS
GPRLVQPHGPRF
RLEGN
AVLYGGWSFAFRLRSS
SGLQVLNVHFGGERIAEVS
VQEAVALYGGHTPAGMQTKYLDV
GWGLGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR
TTSTVYNYDYIWD
FIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH
THLIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVQPTLEQTQYSWERQAAFRKRLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS
SSSIYHQNDPWHPPVVF
EQFLHNNENIENEDLV
AWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPF
SYNGTYRPV (SEQ ID NO:41)

Figure 1 continued

Fc-hDAO-Hepmut3

MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGVFSDL
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVAGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPGLRHGTRLHHTHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:42)

Fc-hDAO-Hepmut4

MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGVFSDL
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVAGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPGLRHGTRLHHTHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFSFKTKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:43)

Fc-hDAO-Hepmut5

MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMHEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGVFSDL
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRPISAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVAGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPGLRHGTRLHHTHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:44)

Figure 1 continued

Fc-hDAO-Hepmut6

MPALGWAVAAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK**
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGVFSDLS
 NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
 EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRPSTA EYALLYHTLQEATKPLHQFFLNTTGFSFQ
 DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
 YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
 RLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWG
 LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
 GQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLGNIHTHLVHY
 RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFR**GQ**TLPKYLLFTSPQE
 NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVF
 QFLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
 GPNYVQRWIPEDRDCSMPPPF SYNGTYRPV (SEQ ID NO:45)

Fc-hDAO-Hepmut7

MPALGWAVAAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK**
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGVFSDLS
 NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
 EHPNVTEFAVGPLPGPCYMRALSPRPGYQSSWASRPSTA EYALLYHTLQEATKPLHQFFLNTTGFSFQ
 DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
 YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
 RLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWG
 LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
 GQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLGNIHTHLVHY
 RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFR**SF**KRKLPTYLLFTSPQE
 NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVF
 QFLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
 GPNYVQRWIPEDRDCSMPPPF SYNGTYRPV (SEQ ID NO:46)

Fc-hDAO-Cysmut

MPALGWAVAAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHED**
DPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTI
SKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGS
FFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEEPSPGTLPRKAGV
 FSDLSNQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIF
 FGDQEHPNVTEFAVGPLPGPAYMRALSPRPGYQSSWASRPSTA EYALLYHTLQEATKPLHQFFLNTT
 GFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVW
 YNGKFYGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS GPRLVQPH
 HGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYL
 DVGWGLGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFN
 FYAGLKGGQVLVLRRTTSTVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLGNIH
 THLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFRKRKLPKYLL
 FTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSEIYHQNDPWH
 PPVFEQFLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVI
 WPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV (SEQ ID NO:47)

Figure 1 continued

Fc-hDAO-Hepmut1-Cysmut

MPALGWAVAAAILMLQTAMAECP~~PC~~PAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYS
KLTVDKSRWQ~~Q~~GNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEPSPGTLPRKAGVFS
DLNQLKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF~~LD~~KGERHPVREARAVIFFGDQ
EHPNVTFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS~~GP~~RLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGVWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR~~TT~~STVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH~~TH~~LIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFSFKRKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS~~SS~~IYHQNDPWHPVVF
EQLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPF~~SY~~NGTYRPV (SEQ ID NO:48)

Fc-hDAO-Hepmut2-Cysmut

MPALGWAVAAAILMLQTAMAECP~~PC~~PAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYS
KLTVDKSRWQ~~Q~~GNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEPSPGTLPRKAGVFS
DLNQLKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF~~LD~~KGERHPVREARAVIFFGDQ
EHPNVTFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS~~GP~~RLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGVWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR~~TT~~STVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH~~TH~~LIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFKRLPTYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS~~SS~~IYHQNDPWHPVVF
EQLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPF~~SY~~NGTYRPV (SEQ ID NO:49)

Fc-hDAO-Hepmut3-Cysmut

MPALGWAVAAAILMLQTAMAECP~~PC~~PAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYS
KLTVDKSRWQ~~Q~~GNVFSCSVMEALHNHYTQKSLSLSPGKEPKSADKTHTEPSPGTLPRKAGVFS
DLNQLKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRF~~LD~~KGERHPVREARAVIFFGDQ
EHPNVTFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPPLFSSHKPRGDFPSPIHVS~~GP~~RLVQPHGPRF
RLEGNAVLYGGWSFAFRLRSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGVWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLR~~TT~~STVYNYDYIWDIFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLH~~TH~~LIGNIHTHLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCS~~SS~~IYHQNDPWHPVVF
EQLHNNENIENEDLVAVWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPF~~SY~~NGTYRPV (SEQ ID NO:50)

Figure 1 continued

Fc-hDAO-Hepmut4-Cysmut

MPALGWAVAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK**
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMH**EALHNHYTQKSLSLSPGKEPKSADKTHTE**EPSPGTLPRKAGVFSDLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAIEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPFLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTTSTVYNYDYIWDIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFSFKTKLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSSIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:51)

Fc-hDAO-Hepmut5-Cysmut

MPALGWAVAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK**
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMH**EALHNHYTQKSLSLSPGKEPKSADKTHTE**EPSPGTLPRKAGVFSDLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAIEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPFLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTTSTVYNYDYIWDIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFKTKLPYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSSIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:52)

Fc-hDAO-Hepmut6-Cysmut

MPALGWAVAAILMLQTAMAECP**PCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK**
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFCSVMH**EALHNHYTQKSLSLSPGKEPKSADKTHTE**EPSPGTLPRKAGVFSDLS
NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDDKGERHPVREARAVIFFGDQ
EHPNVTEFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAIEYALLYHTLQEATKPLHQFFLNTTGFSFQ
DCHDRCLAFTDVAPRGVASGQRRSWLIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPFLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
RLEGNVLYGGWSFAFRLRSSGLQVLNVHFGGERIAEYVSVQEAVALYGGHTPAGMQTKYLDVGWG
LGSVTHELAPGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
GQVLVLRRTTSTVYNYDYIWDIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHLIGNIHTLVHY
RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVVQPTLEQTQYSWERQAAFRFGQTLPKYLLFTSPQE
NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSSIYHQNDPWHPPVFE
QFLHNNENIENEDLVAWWTVGFLHIPHSEDIPNTATPGNSVGFLLRPFNFPEPDSLARDTVIWWPRDN
GPNYVQRWIPEDRDCSMPPPFYNGTYRPV (SEQ ID NO:53)

Figure 1 continued

Fc-hDAO-Hepmut7-Cysmut

MPALGWAVAAAILMLQTAMAECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKG
 QPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYS
 KLTVDKSRWQQGNVFCSCVMHEALHNNHYTQKSLSLSPGKEPKSADKTHTEPSPGTLPRKAGVFSDL
 NQELKAVHSFLWSKKELRLQPSSTTTMAKNTVFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQ
 EHPNVTEFAVGPLPGPAYMRALSPRPGYQSSWASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQ
 DCHDRCLAFTDVAPRGVAGSQRSSWLIIQRYVEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKF
 YGSPEELARKYADGEVDVVLEDPLPGGKGHDSTEEPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRF
 RLEGNALVLYGGWSFAFRLRSSSGLQVLNVHFGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWG
 LGSVTHELAGIDCPETATFLDTFHYYDADDPVHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLK
 GQVLVLRRTTSTVYNYDIWDFIFYPNGVMEAKMHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHY
 RVDLDVAGTKNSFQTLQMKLENITNPWSPRHRVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQE
 NPWGHKRSYRLQIHSMADQVLPPGWQEEQAITWARYPLAVTKYRESELCSSSIYHQNDPWHPVVE
 QFLHNNENIENEDLVAWTVGFLHIPHSEDIPNATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDN
 GPNYVQRWIPEDRDCSMPPPF SYNGTYRPV (SEQ ID NO:54)

hDAO-Fc

MPALGWAVAAAILMLQTAMAEPSGTLPRKAGVFSDLNQLKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVAGSQRSSWLIIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVLEDPLPGGKGH
 DSTEEPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNALVLYGGWSFAFRLRSSSGLQVLNVH
 FGGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWGWLGSVTHELAGIDCPETATFLDTFHYYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKQVLVLRRTTSTVYNYDIWDFIFYPNGVMEAK
 MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSSIYHQNDPWHPVVEQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
E
 PKSADKTHTECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
 HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
 PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQ
 QGNVFCSCVMHEALHNNHYTQKSLSLSPGK (SEQ ID NO:55)

hDAO-Fc-Hepmut1

MPALGWAVAAAILMLQTAMAEPSGTLPRKAGVFSDLNQLKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPSTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVAGSQRSSWLIIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVLEDPLPGGKGH
 DSTEEPLFSSHKPRGDFPSPIHVS GPRLVQPHGPRFRLEGNALVLYGGWSFAFRLRSSSGLQVLNVH
 FGGGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWGWLGSVTHELAGIDCPETATFLDTFHYYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKQVLVLRRTTSTVYNYDIWDFIFYPNGVMEAK
 MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSSIYHQNDPWHPVVEQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPF SYNGTYRPV
E
 PKSADKTHTECPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
 HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
 PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQ
 QGNVFCSCVMHEALHNNHYTQKSLSLSPGK (SEQ ID NO:56)

Figure 1 continued

hDAO-Fc-Hepmut2

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPHVSVPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDDADD
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
 TATPGNSVGFLRPFFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:57)

hDAO-Fc-Hepmut3

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPHVSVPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDDADD
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
 TATPGNSVGFLRPFFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:58)

hDAO-Fc-Hepmut4

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPHVSVPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDDADD
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 TWARYPLAVTKYRESELCSSEYHQNDPWHPVVFQFLHNNENIENEDLVAWVTVGFLHIPHSEDIPN
 TATPGNSVGFLRPFFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:59)

Figure 1 continued

hDAO-Fc-Hepmut5

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKTKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 TWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:60)

hDAO-Fc-Hepmut6

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFGQTLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:61)

hDAO-Fc-Hepmut7

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPCYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:62)

Figure 1 continued

hDAO-Fc-Cysmut

MPALGWAVAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWGWLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKRKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDSCMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:63)

hDAO-Fc-Hepmut1-Cysmut

MPALGWAVAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWGWLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKRKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDSCMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:64)

hDAO-Fc-Hepmut2-Cysmut

MPALGWAVAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDLKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVWGWLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKRKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFPPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDSCMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:65)

Figure 1 continued

hDAO-Fc-Hepmut3-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKQQLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVEQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:66)

hDAO-Fc-Hepmut4-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKQQLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 TWARYPLAVTKYRESELCSSEIYHQNDPWHPVVEQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:67)

hDAO-Fc-Hepmut5-Cysmut

MPALGWAVAAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRLDKGERHPVREARAVIFFGDQEHNVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSFQDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKQQLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHTLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFKTKLPTYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQA
 TWARYPLAVTKYRESELCSSEIYHQNDPWHPVVEQFLHNNENIENEDLVAWTVGFLHIPHSEDIPN
 TATPGNSVGFLLRPFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPVE
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQ
QGNVFSCSVMHREALHNYTQKSLSLSPGK (SEQ ID NO:68)

Figure 1 continued

hDAO-Fc-Hepmut6-Cysmut

MPALGWAVAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSGDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSQPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGVSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFRFGQTLPKYLFTSPQENPWGKHRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
 TATPGNSVGFLRPFFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
EPKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO:69)

hDAO-Fc-Hepmut7-Cysmut

MPALGWAVAAILMLQTAMAEPSPGTLPRKAGVFSDSLNSQELKAVHSFLWSKKELRLQPSSTTTMAKNT
 VFLIEMLLPKKYHVLRFDKGERHPVREARAVIFFGDQEHNPVTEFAVGPLPGPAYMRALSPRPGYQSS
 WASRPISTAEYALLYHTLQEATKPLHQFFLNTTGFSGDCHDRCLAFTDVAPRGVASGQRRSWLIQRY
 VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
 DSTEEPPLFSSHKPRGDFPSPIHVSQPRLVQPHGPRFRLEGNVLYGGWSFAFRLRSSGLQVLNVHF
 GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGVSVTHELAPGIDCPETATFLDTFHYDADDP
 VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFIFYPNGVMEAK
 MHATGYVHATFYTPPEGLRHGTRLHHLIGNIHTLVHYRVDLDVAGTKNSFQTLQMKLENITNPWSPRH
 RVVQPTLEQTQYSWERQAAFSFKRKLPTYLLFTSPQENPWGKHRSYRLQIHSMADQVLPPGWQEEQA
 ITWARYPLAVTKYRESELCSSEIYHQNDPWHPVVFQFLHNNENIENEDLVAWWTVGFLHIPHSEDIPN
 TATPGNSVGFLRPFFNFFPEDPSLASRDTVIVWPRDNGPNYVQRWIPEDRDCSMPPPFSSYNGTYRPV
E
PKSADKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEV
HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKGLPSSIEKTISKAKGQPREPQVYTL
PPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQ
QGNVFSCSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO:70)

Fc-hDAO

ATGCCGCGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
 GTGCCCCCCCCCTGCCCGCCCCCCCCCGTGGCGCGCCCCCTCCGTGTTCTGTTCCTGTTCCCCCAAGCCC
 AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
 AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
 AGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGTCACC
 AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
 CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCTGCCCCC
 CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
 TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCGAGAACAACCTACAAGACCACCCCC
 CCCGTGCTGGACTCCGACGGCTCCTTCTTCTGCTACTCCAAGCTGACCGTGGACAAGTCCAGGT
 GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
 GAAGTCCCTGTCCCTGTCCCCCGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
 CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
 CAGTGACACAGCTTCTCTGCTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCAACCATG
 GCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
 GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTCCGTCATCTTCTTGGTGACCAGGAGCA
 TCCCAATGTACCGAGTTTGTGTGGGGCCCTGCCAGGCCCTGCTACATGCGAGCACTGTCCC
 CCAGGCCTGGGTACCATCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
 TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
 TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCAGATGTGGCCCCCGGGGTGTGGCTTCTGG
 CCAGCGCCGCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
 GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
 AACGGGAAGTTCTATGGGAGCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT

Figure 1 continued

GGTGGTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCGATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGCGC
ATTGCCTATGAGGTCAGCGTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACACCTGCAGGCAT
GCAGACCAAGTACCTCGATGTCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC
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CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT
TCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCCGAGGGGCTGCGCCACG
GCACCTCGCTGCACACCCACCTGATTGGCAACATACACTCACTTGGTGCATACCGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACATGCAGATGAAGCTAGAAAACATACCAACCC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTACTCCTGGGAGCG
CCAGGCGGCCCTTCGCTTCAAAGGAAGCTGCCCAAGTACCTGCTCTTACCAGCCCCCAGGAGA
ACCCCTGGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCTACTACCACCAAGACGACCCCTGGCAGCCCGCGTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGCCATTCAACTTCTTCCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:71)

Fc-hDAO-Hepmut1

ATGCCGGCCCTGGGCTGGGCGTGCGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCTGCCCCGCCCCCCCCGTGGCGGCCCTCCGTGTTCTGTTCCCCCACAAGGCC
AAGGACACCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGTTGGTGCATGCCACCG
AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGCTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCGAGAACAACATAAGACACCCCC
CCCCGTGCTGGATCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGACCAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACACCATG
GCCAAGAACACCGTGTCTTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAGGCATCCTGTGCGGGAAGCCCGTGCCGTATCTTCTTGGTGACCAAGTCA
TCCAATGTACCGAGTTTGTGCTGGGGGCCCTGCCAGGCCCTGCTACATGCGAGCACTGTCCC
CCAGGCCCTGGGTACCAGTCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCTGACAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
CCAGCGCCGACAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCAGAGGAACCTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GGTGGTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCGATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGCGC
ATTGCCTATGAGGTACGCTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACCTGCAGGCAT
GCAGACCAAGTACCTCGATGTGCGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC
ATCGACTGCCCCGAGACCGCCACCTTCCTGGACACTTTCCACTACTATGATGCCGATGACCCGGTC
CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT
TCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCCGAGGGGCTGCGCCACG
GCACCTGCCTGCACACCCACCTGATTGGCAACATACACTCACTTGGTGCATACCGCGTAGACC

Figure 1 continued

TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAACC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCAGTACTCCTGGGAGCG
CCAGGCGGCCTTC**AGC**TTCAAAGGAAGCTGCCCAAGTACCTGCTCTTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGGCCATTCAACTTCTTCCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:72)

Fc-hDAO-Hepmut2

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCTGCCCCGCCCCCCCCCGTGGCGGCCCCCTCCGTGTTCTTCCCCCCCCAAGCCC
AAGGACACCCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGACGTGTCCACG
AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCTGCCCCC
TCCAGGGAGGAGATGACCAAGAACCAGGTGTCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
CTCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACCCACCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTCTCATCGAGATGCTGTGCCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCTCATCTTCTTGGTGACCAGGAGCA
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TTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
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GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCAGAGGAACCTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GGTGGTCTGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGCCCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGTCTGACGTGCACTTCCGCGGAGAGCGC
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CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT
TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
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CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCAGTACTCCTGGGAGCG
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CCCAGCTGGCAGGAGGAGCAGGCCATCAGCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGGCCATTCAACTTCTTCCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:73)

Figure 1 continued

Fc-hDAO-Hepmut3

ATGCCGGCCCTGGGCTGGGCGGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
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AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTGACCGTGCTGCACC
AGGACTGGTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACCACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCTGCATCTTCTTTGGTGACCAGGAGCA
TCCCAATGTACCCGAGTTTGTGTGGGGCCCCCTGCCAGGCCCTGCTACATGCGAGCACTGTCCC
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TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCAGATGTGGCCCCCGGGGTGTGGCTTCTGG
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GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCAGAGGAACCTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GTTGCTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
CCTTCTCTCCCAAGCCCCGCGGGGACTTCCCAAGCCCCATCCATGTGAGCGGCCCGCTTGG
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CATTATCCCCGAGCCCTCTGCCCTTTGAAATGCCACAGGGGTGCCCTTCCGCGCCACTTTAAT
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AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
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GCACTCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATACCAACC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTACTCCTGGGAGCG
CCAGCGGCCCTTCCGCTTCAAAACGAAGCTGCCCAAGTACCTGCTCTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCCGTGG
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TGGGCTTCTGTCATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGCGCATTAACCTTCTTCCAGAGGACCCCTCCCTGCGATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:74)

Fc-hDAO-Hepmut4

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AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTGACCGTGCTGCACC
AGGACTGGTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACCACCCCC

Figure 1 continued

CCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
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CAGTGCACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTTTTCTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTATCTTCTTTGGTGACCAGGAGCA
TCCCAATGTCACCGAGTTTGTGTGGGGCCCCCTGCCAGGCCCTGCTACATGCGAGCACTGTCCC
CCAGGCCCTGGGTACCAGTCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
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CCAGCGCCGAGTTGGCTTATCATAACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGT
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TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
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TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATACCAACC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTCCTGGGAGCG
CCAGGCGGCCCTTCAAGTTCAAAACGAAGCTGCCCAAGTACCTGCTCTTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACAGAACGACCCCTGGCACCCCGCTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAAGTCCGTG
GGCTTCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:75)

Fc-hDAO-Hepmut5

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AGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAACAACCTACAAGACCACCCCC
CCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTAAGCTGACCGTGGACAAGTCCAGGT
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CAGTGCACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTTTTCTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTATCTTCTTTGGTGACCAGGAGCA
TCCCAATGTCACCGAGTTTGTGTGGGGCCCCCTGCCAGGCCCTGCTACATGCGAGCACTGTCCC
CCAGGCCCTGGGTACCAGTCTTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA

Figure 1 continued

TTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCCAAGAGAACTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GGTGGTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCCAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGCCCCCGCTTGG
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CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGAGCTTTAAT
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CCAGGCGGCCCTTCGCTTCAAA**ACGA**AGCTGCCC**ACGT**ACCTGCTCTTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
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GGCTTCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
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Fc-hDAO-Hepmut6

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCC**CAAGCCC**
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCTGCCCCC
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TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAACAACCTACAAGACCACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTA**CTCCAAGCTGACCGTGGACAAGTCCAGGT**
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
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CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
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GCAGACCAAGTACCTCGATGTCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC

Figure 1 continued

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ATCGTGTGGCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:77)

Fc-hDAO-Hepmut7

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AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
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TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
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CCAGGCCCTGGGTACCAGTCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
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TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
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TGCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCTGAACGTGCACCTCGCGGAGAGCGC
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CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT
TCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
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GCACTCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATACCAACC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCAGTACTCCTGGGAGCG
CCAGGCGGCCTT**CAGC**TTCAAAGGAAGCTGCC**CAGC**TACCTGCTCTTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC

Figure 1 continued

CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCCGTGG
TCTTTGAGCAGTTTCTTCACAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:78)

Fc-hDAO-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCCACAAGCCC
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCTTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCGAGAACAACCTACAAGACCACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGCACAGCTTCTCTGTTCCAAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACTATG
GCCAAGAACACCGTGTTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGGCGTCATCTTCTTTGGTGACCAGGAGCA
TCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGCCCCGCTACATGCGAGCACTGTCCC
CCAGGCCTGGGTACCAAGTCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCAGATGTGGCCCCCGGGGTGTGGCTTCTGG
CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCCAGAGGAACCTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GGTGGTCTTGAGGAGCCCGCTGCCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTTCAGGCTGGAGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGCGC
ATTGCCTATGAGGTGAGCGTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACACCTGCAGGCAT
GCAGACCAAGTACCTCGATGTGCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC
ATCGACTGCCCCGAGACCGCCACCTTCTGACACTTTCCACTACTATGATGCCGATGACCCGGTC
CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTAAT
TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCCGAGGGGTGCGCCACG
GCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATACCAACC
CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTACTCCTGGGAGCG
CCAGGCGGCCCTCCGCTTCAAAGGAAGCTGCCCAAGTACCTGCTCTTTACGACCCCGAGGAG
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCCGTGG
TCTTTGAGCAGTTTCTTCACAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:79)

Figure 1 continued

Fc-hDAO-Hepmut1-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCCACAAGCCC
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACCACCCCC
CCCGTGTCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTCTCTCATCGAGATGCTGCTGCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAGGCATCCTGTGCGGGAAGCCCCGTGCCGTCTCTTCTTGGTGACCAGGAGCA
TCCCAATGTACCCGAGTTTGTCTGTGGGGCCCCCTGCCAGGCCCCGCTACATGCGAGCACTGTCCC
CCAGGCCCTGGGTACCACTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCAGATGTGGCCCCCGGGGTGTGGCTTCTGG
CCAGCGCCGCAGTTGGCTTATCATAACGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCCAAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GTTGGTCTCTGGAGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
CCTTCTCTCCACAAGCCCCCGCGGGGACTTCCCAAGTCCATGTGAGCGCGGCCCTCCCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCTGAACGTGCACTTCGGCGGAGAGCGC
ATTGCCTATGAGGTGAGCGTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACACCTGCAGGCAT
GCAGACCAAGTACCTCGATGTGCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC
ATCGACTCCCCGGAGACCGCCACCTTCTGACACTTTCCACTACTATGATGCCGATGACCCGCTC
CATTATCCCCGAGCCCTCTGCCCTTTGAAATGCCACAGGGGTGCCCTTCCGCGGCACCTTAAT
TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCACG
GCACTCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCATACCAGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATACCAACC
CCTGGAGCCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTACTCCTGGGAGCG
CCAGCGGCCCTT**CAGC**TTCAAAGGAAGCTGCCCAAGTACCTGCTCTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGTCATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGGCCATTCAACTTCTTCCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:80)

Fc-hDAO-Hepmut2-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCCACAAGCCC
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCCGAGAACAACCTACAAGACCACCCCC

Figure 1 continued

CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTGTA**CTCCAAGCTGACCGTGGACAAGTCCAGGT**
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
 CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTCAGACCTAAGCAACCAAGAGCTGAAGG
 CAGTGCACAGCTTCCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
 GCCAAGAACACCGTGTTTTCTCATCGAGATGCTGTGCCAAGAAGTACCATGTGCTGAGGTTTTCTG
 GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTATCTTCTTTGGTGACCAGGAGCA
 TCCCAATGTCACCGAGTTTGCTGTGGGGCCCCCTGCCAGGCCCC**GCCT**ACATGCGAGCACTGTCCC
 CCAGGCCCTGGGTACCAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
 TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
 TTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
 CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGT
 GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
 AACGGGAAGTTCTATGGGAGCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
 GGTGGTCTGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCCCT
 CTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTG
 TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
 TGCCTTCGGGCTGCGCTCCTCCTCGGGCTGCAGGTCTGAACGTGCACTTCGGCGGAGAGCGC
 ATTGCCATGAGGTGAGCTGCAAGAGGCAGTGCGCTGTATGGAGGACACACACCTGCAGGCAT
 GCAGACCAAGTACCTCGATGTGCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGGC
 ATCGACTGCCCCGAGACCGCCACCTTCTGGACACTTTCCTACTATGATGCCGATGACCCGGTC
 CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTAAT
 TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
 AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGAG
 GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCACG
 GCACTCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGTAGACC
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 CCTGGAGCCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTCCTGGGAGCG
 CCAGGCGGCCCTTCGCTTCAAAGGAAGCTGCCC**ACGT**ACCTGCTCTTTACCAGCCCCCAGGAGA
 ACCCTGGGGCCACAAGCGCAGCTACCGCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
 CCCAGGCTGGCAGGAGGAGCAGGCCATCAGCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
 CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCCGCTGG
 TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
 TGGGCTTCTGACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
 GGCTTCTGCTCCGGCCATTCAACTTCTTCCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
 ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
 GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA (SEQ ID NO:81)

Fc-hDAO-Hepmut3-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCTTGCCCCGCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCCAAGCCC
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTACACCTACAGGGTGGTGTCCGTGCTGACCGTGCTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTGTACACCTTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAACAACCTACAAGACCACCCCC
CCCGTGCTGGACTCCGACGGCTCCTTCTTCCTGTA**CTCCAAGCTGACCGTGGACAAGTCCAGGT**
GGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
 CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTCAGACCTAAGCAACCAAGAGCTGAAGG
 CAGTGCACAGCTTCCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
 GCCAAGAACACCGTGTTTTCTCATCGAGATGCTGTGCCAAGAAGTACCATGTGCTGAGGTTTTCTG
 GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTATCTTCTTTGGTGACCAGGAGCA
 TCCCAATGTCACCGAGTTTGCTGTGGGGCCCCCTGCCAGGCCCC**GCCT**ACATGCGAGCACTGTCCC
 CCAGGCCCTGGGTACCAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
 TACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
 TTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTCTGG

Figure 1 continued

CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
AACGGGAAGTTCTATGGGAGCCCAGAGGAACTGGCTCGGAAGTATGCAGATGGAGAGGTGGACGT
GGTGGTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCGATGACAGCACAGAGGAGCCGCCCT
CTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGCGC
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GCAGACCAAGTACCTCGATGTCCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCGGC
ATCGACTGCCCCGAGACCGCCACCTTCTGGACACTTTCCACTACTATGATGCCGATGACCCGGTC
CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT
TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGCTGAAGGGCCAGGTGCTGGTGTGCGGAC
AACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGTGGAG
GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCACG
GCACTGCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGACC
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CCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTCTGGAGCAGACGCACTACTCCTGGGAGCG
CCAGGCGGCCCTTCCGCTTCAAA**ACGA**AGCTGCCCAAGTACCTGCTCTTTACCAGCCCCCAGGAGA
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CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTGG
TCTTTGAGCAGTTTCTTACAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGTCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
GGCTTCTGCTCCGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGACT
GCTCGATGCCTCCCCCTTTTAGCTACAATGGGACCTATAGACCTGTGTGA ((SEQ ID NO:82)

Fc-hDAO-Hepmut4-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCGGGCCCTCCGTGTTCTGTTCCCCC**CAAGCCC**
AAGGACACCCTGATGATCTCCAGGACCCCGAGGTGACCTGCGTGGTGGTGGACGTGTCCCACG
AGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGCTGCACC
AGGACTGGTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCTGCCCTCCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGGCCAGGGAGCCCCAGGTGTACACCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCGAGAACAACCTACAAGACCACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
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GAACTCCCTGTCCCTGTCCCCCGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
CAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACCATG
GCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGAGCA
TCCCAATGTACCCGAGTTTGTGTGGGGCCCTGCCAGGCCCC**GGCT**ACATGCGAGCACTGTCCC
CCAGGCCCTGGGTACCACTCCTCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTCCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
TTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTCTGG
CCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGGGCT
GGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGGTAC
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GGTGGTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCGATGACAGCACAGAGGAGCCGCCCT
CTTCTCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCTTGG
TCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAGCTT
TGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGCGC
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GCAGACCAAGTACCTCGATGTCCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCGGC
ATCGACTGCCCCGAGACCGCCACCTTCTGGACACTTTCCACTACTATGATGCCGATGACCCGGTC
CATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAAT

Figure 1 continued

TCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGAC
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GCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCCGAGGGGCTGCGCCACG
GCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGTAGACC
TGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAACC
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CCAGGCGGCCCTT**CAGCTT**CAAA**ACGA**AGCTGCCCAAGTACCTGCTCTTTACCAGCCCCCAGGAGA
ACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGCC
CCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTAC
CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTGG
TCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACGG
TGGGCTTCTGCACATCCCCACTCAGAGGACATTCCCAACACAGCCACACTGGGAACCTCCGTG
GGCTTCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGCGATCCAGAGACACTGTG
ATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGACT
GCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGTGA ((SEQ ID NO:83)

Fc-hDAO-Hepmut5-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTCCCCC**CAAGCCC**
AAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTGACGTGTCCCACG
AGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCACAACGCCAAGACCA
AGCCCAAGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
AGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGCCTGCCCTCTCCAT
CGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTGTACACCCTGCCCCC
CTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGAAGGGCTTCTACCCC
TCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAAACAACCTACAAGACCACCCCC
CCCGTGTGGACTCCGACGGCTCCTTCTCTCTGTACTCCAAGCTGACCGTGGACAAGTCCAGGT
GGCAGCAGGGCAACGTGTTCTCCTGCTCCTGTGACACGAGGCCCTGCACAACCACTACACCCA
GAAGTCCCTGTCCCTGTCCCCCGCAAGGAGCCCAAGTCCGCCGACAAGACCCACACCGAGCC
CTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGAAGG
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GCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTTCTG
GATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCTCTTTGGTGACCAGGAGCA
TCCCAATGTCAACCGAGTTTGCTGTGGGGCCCCCTGCCAGGCCCC**GCCT**ACATCGAGCACTGCC
CCAGGCCTGGGTACCACTCTCTGCGCATCGAGGCCATCTCCACAGCAGATGACCTCTCTC
TACCACACCCTGCAGGAAGCCACCAAGCCCTGCATCAGTTCTTCTCAATACCACAGGCTTCTCA
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CGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTGG
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Figure 1 continued

TGGGCTTCCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACTCCGTG
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Fc-hDAO-Hepmut6-Cysmut

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AGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTGACCGTGTGCACC
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Fc-hDAO-Hepmut7-Cysmut

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Figure 1 continued

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TGGGCTTCTGACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGTG
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hDAO-Fc

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Figure 1 continued

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hDAO-Fc-Hepmut1

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Figure 1 continued

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hDAO-Fc-Hepmut2

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Figure 1 continued

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hDAO-Fc-Hepmut3

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GCATCCCAATGTACCCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCTGCTACATGCGAGCACTGT
CCCCCAGGCCTGGGTACAGTCTCCTGGGCATCGAGGCCATCTCCACAGCAGAGTATGCCCTC
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TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
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TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
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CAACTTCAACTGTCTACAATTATGATTACATTTGGACTTTATCTTCTACCCCAACGGGTGATGGA
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GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGAC
CTGGATGTGGCAGGCACCAAGAAGAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAC
CCCTGGAGCCCCAAGACACCGCGTGGTCCAGCCAACCTTGAGAGCAGACGCACTCCTGGGAGC
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AACCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCAGCAGGTGCTGC
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CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAATGAGGACCTGGTGGCCTGGGTGACG
GTGGGCTTCTGCACATCCCCACTCAGAGGACATTCCAACACAGCCACACCTGGGAACCTCCGT
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TACACCCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGA
AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAGAACA
ACAAGACCACCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCCTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA (SEQ ID NO:90)

Figure 1 continued
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GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCTGCTACATGCGAGCACTGT
CCCCCAGGCCTGGGTACAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCTGCAGGAAGCCACCAAGCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
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TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGGAGCCCAAGTCCGCGGA
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AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTG
ACCGTGCTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGC
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AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAACAACT
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GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCCTACACCCAGAAGTCCCTGTCCCTGTCCCCCGGCAAGTGA (SEQ ID NO:91)

hDAO-Fc-Hepmut5

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GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCTGCTACATGCGAGCACTGT
CCCCCAGGCCTGGGTACAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCTGCAGGAAGCCACCAAGCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTC

Figure 1 continued

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AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAGAACAAC
ACAAGACACCCCCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCACTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA (SEQ ID NO:92)

hDAO-Fc-Hepmut6

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CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGTGTGGGGCCCCCTGCCAGGGGCCCTGCTACATGCGAGCACTGT
CCCCAGGCCCTGGGTACCAAGTCCCTGAGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
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Figure 1 continued

TTCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGTGCGGA
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GGTGGGCTTCTCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACTGGGAATCCG
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GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCTGCTACATGCGAGCACTGT
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TCATTCCAAGACTGCCATGACAGATGCCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGTCTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
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GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGAC
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CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG

Figure 1 continued

GTCTTTGAGCAGTTTCTTCACAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACG
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CAAGACCCACACCTGCCCCCTGCCCGCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTT
CCCCCAAGCCCAAGGACACCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTG
GACGTGTCCCACGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTG
ACCGTGTGCACCAAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGC
CTGCCCTCCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTG

Figure 1 continued

**TACACCCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGA
AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAACAACT
ACAAGACCACCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCCTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA**(SEQ ID NO:95)

hDAO-Fc-Hepmut1-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GCCCTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGA
AGGCAGTGACACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTGATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**TACATGCGAGCACTGT
CCCCCAGGCCCTGGGTACAGTCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCCTGGCCCTTACCAGATGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
GCTGGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGG
TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
CCTCTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCCCGCT
TGGTCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
CTTTGCCCTCCGGCTGCGCTCCTCCTCCGGGCTGCAGTCTCTGAACGTGCACCTCGGCGGAGAGC
GCATTGCCTATGAGGTGACGCTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACACCTGCAGGC
ATGCAGACCAAGTACCTCGATGTGCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGG
CATCGACTGCCCGGAGACCGCCACCTTCTGGACACTTTCCACTACTATGATGCCGATGACCCGGT
CCATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACTTTAA
TTCCAACTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCAG
CAACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGA
GGCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCAC
GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGTAGAC
CTGGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAAC
CCCTGGAGCCCCAAGACACCGCGTGGTCCAGCCAACTCTGGAGCAGACGCAGTACTCTGGGAGC
GCCAGCGGCCTT**AGCT**TCAAAGGAAGCTGCCCAAGTACCTGCTCTTTACAGCCCCCAGGAG
AACCCTTGGGGCCACAAGCGCAGCTACCGCTGCAGATCCACTCCATGGCCAGCAGGTGCTGC
CCCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTA
CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACG
GTGGGCTTCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGT
GGGCTTCTGCTCCGGCCATTCACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGT
GATCGTGTGGCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGAC
TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGG**GAGCCCCAAGTCCGCCGA
CAAGACCCACACCTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTC
CCCCCAAGGCCAAGGACACCCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTG
GACGTGTCCACGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAAGTCCACCTACAGGGTGGTGTCCGTGCTG
ACCGTGCTGCACAGGACTGGCTGAACGGCAAGGATACAAGTGCAAGGTGTCCAACAAGGGC
CTGCCCTCCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTG
TACACCCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGA
AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAACAACT
ACAAGACCACCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCCTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA**(SEQ ID NO:96)

Figure 1 continued

hDAO-Fc-Hepmut2-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GCCCTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGA
AGGCAGTGCACAGCTTCCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**TACATGCGAGCACTGT
CCCCCAGGCCTGGGTACAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
GCTGGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGG
TACAACGGGAAGTTCTATGGGAGCCAGAGGAAGCTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGCTCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
CCTCTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCGCT
TGGTCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
CTTTGCCTTCGGGCTGCGCTCCTCCTCCGGGCTGCAGGTCTGAACGTGCACTTCGGCGGAGAGC
GCATTGCCTATGAGGTGACGCTGCAAGAGGCAGTGGCGCTGTATGGAGGACACACACCTGCAGGC
ATGCAGACCAAGTACCTCGATGTCGGCTGGGGCTGGGCAGCGTCACTCATGAGTTAGCCCCCGG
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CCATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACCTTTAA
TTCCAACTTTAAAGGTGGCTTCACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTGCGGA
CAACTTCACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGA
GGCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCAC
GGCATCGCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCACTACCGCGCTAGAC
CTGATGTGGCAGGCACCAAGAACAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACAAC
CCCTGGAGCCCAAGACACCGCTGGTCCAGCCAACCTCTGGAGCAGACGCAGTACTCCTGGGAGC
GCCAGGCGGCCCTTCGCTTCAAAAGGAAGCTGCC**ACGT**ACCTGCTCTTTACCAGCCCCCAGGAG
AACCCTGGGGCCACAAGCGCAGCTACCGCTGCAGATCCACTCCATGGCCGACCAGGTGCTGC
CCCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTA
CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCCGT
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGCCCTGGGTGACG
GTGGGCTTCTGCACATCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGT
GGGCTTCTGCTCCGGCCATTCACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGT
GATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGAC
TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTG**GAGCCCAAGTCCGCCGA**
CAAGACCCACACCTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTT
CCCCCAAGCCCAAGGACACCTGATGATCTCCAGGACCCCGAGGTGACCTGCGTGGTGGT
GACGTGTCCCGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAACCTCACCTACAGGGTGGTGTCCGTGCTG
ACCGTGCTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGC
CTGCCCTCCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTG
TACACCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGA
AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCGAGAACAACT
ACAAGACCACCCCCCGTGTCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGCCCTGCAC
AACCACTACACCCAGAAGTCCCTGTCCCTGTCCCCCGGCAAGTGA (SEQ ID NO:97)

hDAO-Fc-Hepmut3-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GCCCTCCCCGGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGA
AGGCAGTGCACAGCTTCCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**TACATGCGAGCACTGT
CCCCCAGGCCTGGGTACAGTCCTCCTGGGCATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTCACCGATGTGGCCCCCGGGGTGTGGCTTC

Figure 1 continued

TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
GCTGGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGG
TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
CCTCTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCCCGCT
TGGTCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
CTTTGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGC
GCATTGCCTATGAGGTGAGCGTGCAAGAGGCAAGTGGCGCTGTATGGAGGACACACACCTGCAGGC
ATGCAGACCAAGTACCTCGATGTCCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGG
CATCGACTGCCCGGAGACCGCCACCTTCCTGGACACTTTCCACTACTATGATGCCGATGACCCGGT
CCATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACTTTAA
TTCCAACTTTAAAGTGGCTTCACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGCTCGGA
CAACTTCAACTGTCTACAATTATGATTACATTTGGGACTTTATCTTCTACCCCAACGGGGTGATGGA
GGCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCAC
GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGAC
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GCCAGGCGGCCCTTCGCTTCAAA**ACGA**AGCTGCCCAAGTACCTGCTCTTTACAGCCCCCAGGAG
AACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGC
CCCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTA
CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACG
GTGGGCTTCTGCACATCCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGT
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GATCGTGTGGCCTCGGGACAACGGCCCAACTACGCTCCAGCGCTGGATCCCTGAGGACAGGGAC
TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGG**GAGCCCCAAGTCCGCCGA**
CAAGACCCACACCTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTC
CCCCCAAGCCCAAGGACACCCCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTG
GACGTGTCCACGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTG
ACCGTGTCCACAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAAGGCAAGGGC
CTGCCCTCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTG
TACACCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGTGA
AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAGAACAAC
ACAAGACACCCCCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCCTGCTCCGTGATGCACGAGGGCCCTGCAC
AACCACTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA(SEQ ID NO:98)

hDAO-Fc-Hepmut4-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
GCCCTCCCCGGGACTCTGCCAGGAAGGCAGGGGTGTTTTAGACCTAAGCAACCAAGAGCTGA
AGGCAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**ACATGCGAGCACTGT
CCCCAGGCCTGGGTACCAAGTCCCTGAGGCATCGAGGCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCCCTGCAGGAAGCCACCAAGCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
GCTGGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGG
TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCTCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
CCTCTTCTCCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCCCGCT
TGGTCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
CTTTGCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCCTGAACGTGCACTTCGGCGGAGAGC
GCATTGCCTATGAGGTGAGCGTGCAAGAGGCAAGTGGCGCTGTATGGAGGACACACACCTGCAGGC
ATGCAGACCAAGTACCTCGATGTCCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGG
CATCGACTGCCCGGAGACCGCCACCTTCCTGGACACTTTCCACTACTATGATGCCGATGACCCGGT
CCATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACTTTAA

Figure 1 continued

TTCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGTGCGGA
CAACTTCAACTGTCTACAATTATGATTACATTGGGACTTTATCTTCTACCCCAACGGGGTGATGGA
GGCCAAGATGCATGCCACTGGCTACGTCCACGCCACCTTCTACACCCCGAGGGGCTGCGCCAC
GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGAC
CTGGATGTGGCAGGCACCAAGAAGAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAAC
CCCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTGGAGCAGACGCAGTACTCCTGGGAGC
GCCAGGCGGCCTTCA**AGCTTCAAAACGA**AGCTGCCCAAGTACCTGCTCTTTACCAGCCCCCAGGAG
AACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGC
CCCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTA
CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACG
GTGGGCTTCTCTGCACATCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCGT
GGGCTTCTCTCCGGCCATTCACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGT
GATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGAC
TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGG**GAGCCCAAGTCCGCCGA**
CAAGACCCACACCTGCCCCCCTGCCCGCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTT
CCCCCAAGCCCAAGGACACCTGATGATCTCCAGGACCCCCGAGGTGACCTGCGTGGTGGTG
GACGTGTCCACGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
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ACCGTGCTGCACAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTGTCCAACAAGGGC
CTGCCCTCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCAGGGAGCCCCAGGTG
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AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCGAGAACAAC
ACAAGACACCCCCCGTGCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAGCTGACCGT
GGACAAGTCCAGGTGGCAGCAGGGCAACGTGTTCTCTGCTCCGTGATGCACAGGCCCTGCAC
AACCACTACACCCAGAAGTCCCTGTCCCTGTCCCCCGGCAAGTGA (SEQ ID NO:99)

hDAO-Fc-Hepmut5-Cysmut

ATGCCGGCCCTGGGCTGGGCCGTGGCTGCCATCCTGATGCTGCAGACGGCCATGGCGGA
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AGGCAGTGACAGCTTCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**TACATGCGAGCTGT
CCCCAGGCCCTGGGTACCAAGTCTCTGGGCATCGAGGCCATCTCCACAGCAGATGCCCCCTC
CTTACCACACCCCTGCAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCGATGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCCGAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
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TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCCCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCAGAGGAGCGGCC
CCTCTTCTCTCCACAAGCCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCCCCGCT
TGGTCCAGCCCCACGGCCCTCGCTTCAGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
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ATGCAGACCAAGTACCTCGATGTCGGCTGGGGCTGGGCAAGCTCACTCATGATGCTTACCCCGG
CATCGACTGCCCGGAGACCGCCACCTTCTGGACACTTTCCACTACTATGATGCCGATGACCCCGT
CCATTATCCCCGAGCCCTCTGCCTCTTTGAAATGCCACAGGGGTGCCCTTCGGCGGCACTTTAA
TTCCAACCTTTAAAGGTGGCTTCAACTTCTATGCGGGGCTGAAGGGCCAGGTGCTGGTGTGCGGA
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GGCACTCGCCTGCACACCCACCTGATTGGCAACATACACACTCACTTGGTGCCTACCGCGTAGAC
CTGGATGTGGCAGGCACCAAGAAGAGCTTCCAGACACTGCAGATGAAGCTAGAAAACATCACCAAC
CCCTGGAGCCCAAGACACCGCGTGGTCCAGCCAACCTGGAGCAGACGCAGTACTCCTGGGAGC
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AACCCCTGGGGCCACAAGCGCAGCTACCGCCTGCAGATCCACTCCATGGCCGACCAGGTGCTGC
CCCCAGGCTGGCAGGAGGAGCAGGCCATCACCTGGGCAAGGTACCCCTGGCAGTGACCAAGTA
CCGGGAGTCGGAGCTGTGCAGCAGCAGCATCTACCACCAGAACGACCCCTGGCACCCGCCCGTG
GTCTTTGAGCAGTTTCTTCAACAACGAGAACATTGAAAATGAGGACCTGGTGGCCTGGGTGACG

Figure 1 continued

GTGGGCTTCCTGCACATCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCCGT
GGGCTTCCTGCTCCGGCCATTCAACTTCTTCCAGAGGACCCCTCCCTGGCATCCAGAGACACTGT
GATCGTGTGGCCTCGGGACAACGGCCCCAACTACGTCCAGCGCTGGATCCCTGAGGACAGGGAC
TGCTCGATGCCTCCCCCTTTAGCTACAATGGGACCTATAGACCTGTGGAGCCCAAGTCCGCCGA
CAAGACCCACACCTGCCCCCCTGCCCCGCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTC
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GACGTGTCCCACGAGGACCCCGAGGTGAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCAC
AACGCCAAGACCAAGCCCAGGGAGGAGCAGTACAACCTCCACCTACAGGGTGGTGTCCGTGCTG
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CTGCCCTCCTCCATCGAGAAGACCATCTCCAAGGCCAAGGGCCAGCCCAGGGAGCCCCAGGTG
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AGGGCTTCTACCCCTCCGACATCGCCGTGGAGTGGGAGTCCAACGGCCAGCCCAGAGAACAAC
ACAAGACCACCCCCCGTGTCTGGACTCCGACGGCTCCTTCTTCTGTACTCCAAAGCTGACCGT
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AACCACTACACCCAGAAGTCCCTGTCCCTGTCCCCCGCAAGTGA (SEQ ID NO:100)

hDAO-Fc-Hepmut6-Cysmut

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AGGCAGTGCACAGCTTCCTCTGGTCCAAGAAGGAGCTGAGGCTGCAGCCCTCCAGTACCACCACC
ATGGCCAAGAACACCGTGTTTCTCATCGAGATGCTGCTGCCCAAGAAGTACCATGTGCTGAGGTTT
CTGGATAAAGGTGAAAGGCATCCTGTGCGGGAAGCCCGTGCCGTCATCTTCTTTGGTGACCAGGA
GCATCCCAATGTACCGAGTTTGCTGTGGGGCCCCCTGCCAGGGCCCC**GCCT**TACATGCGAGCACTGT
CCCCAGGCCCTGGGTACCACTCCTCCTGGGATCGAGGCCCATCTCCACAGCAGAGTATGCCCTC
CTCTACCACACCTGCAAGGAAGCCACCAAGCCCCCTGCATCAGTTCTTCTCAATACCACAGGCTTC
TCATTCCAAGACTGCCATGACAGATGCCTGGCCTTACCAGTGTGGCCCCCGGGGTGTGGCTTC
TGGCCAGCGCCGCAGTTGGCTTATCATACAGCGCTATGTAGAAGGCTACTTTCTGCACCCCACTGG
GCTGGAGCTCCTCGTGGATCATGGGAGCACAGATGCTGGGCACTGGGCCGTGGAGCAGGTGTGG
TACAACGGGAAGTTCTATGGGAGCCCAGAGGAAGTGGCTCGGAAGTATGCAGATGGAGAGGTGGA
CGTGGTGGTCTGGAGGACCCGCTGCCTGGGGGCAAGGGGCATGACAGCACAGAGGAGCCGCC
CCTCTTCTCCTCCCAAGACCCCGCGGGGACTTCCCCAGCCCCATCCATGTGAGCGGCCCGCGCT
TGGTCCAGCCCCACGGCCCTCGCTTACGGCTGGAGGGCAACGCTGTGCTCTACGGCGGCTGGAG
CTTTGCCCTTCCGGCTGCGCTCCTCCTCCGGGCTGCAGGTCTGAACGTGCACCTTCGGCGGAGAGC
GCATTGCCTATGAGGTGAGCGTGAAGAGGCAAGTGGCGCTGTATGGAGGACACACACCTGCAGGC
ATGCAGACCAAGTACCTCGATGTGCGGCTGGGGCCTGGGCAGCGTCACTCATGAGTTAGCCCCCGG
CATCGACTGCCCGGAGACCGCCACCTTCTTGACACTTTCCACTACTATGATGCCGATGACCCGGT
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GGTGGGCTTCTGACATCCCCACTCAGAGGACATTCCCAACACAGCCACACCTGGGAACCTCG
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CAACGCCAAGACCCAGGGAGGAGTACAAGTCCACCTACAGGGTGTCCGTGCT
GACCGTGTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGAAGGTGTCCAACAAGGG
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Figure 1 continued

GTACACCCCTGCCCCCTCCAGGGAGGAGATGACCAAGAACCAGGTGTCCCTGACCTGCCTGGT
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hDAO-Fc-Hepmut7-Cysmut

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CAAGACCCACACCTGCCCCCCTGCCCGCCCCCCCCCGTGGCCGGCCCCCTCCGTGTTCTGTTC
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Figure 1 continued

Human serum albumin (HSA), wild type sequence

DAHKSEVAHRFKDLGEENFKALVLIAFAQYLQQCPFEDHVKLVNEVTEFAKTCVADESAENCDKSLHTL
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YLYEIARRHPYFYAPELLFFAKRYKAAFTCECCQAADKAACLLPKLDELDEGKASSAKQRLKCASLQKF
GERAFKAWAVARLSQRFPKAEFAEVSKLVTDLTQVHTECCHGDLLECADDRADLAKYICENQDSISSKL
KECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAEAKDVFLGMFLYFYARRHPDYSVV
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VPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQLCVLHEKTPVSDRVTKCCTESLV
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hDAO-Hepmut4 Asn168Gln

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VEGYFLHPTGLELLVDHGSTDAGHWAVEQVWYNGKFYGSPEELARKYADGEVDVVVLEDPLPGGKGH
DSTEPPPLFSSHKPRGDFPSPIHVSGPRLVQPHGPRFRLEGNAVLYGGWSFAFRLRSSSGLQVLNVHF
GGERIAYEVSQEAVALYGGHTPAGMQTKYLDVGWGLGSVTHELAPGIDCPETATFLDTFHYDDADDP
VHYPRALCLFEMPTGVPLRRHFNSNFKGGFNFYAGLKGQVLVLRRTSTVYNYDYIWDIFYPNGVMEAK
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RVVQPTLEQTQYSWERQAAF~~S~~FKTKLPKYLLFTSPQENPWGHKRSYRLQIHSMADQVLPPGWQEEQAI
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(SEQ ID NO:106)

Figure 2

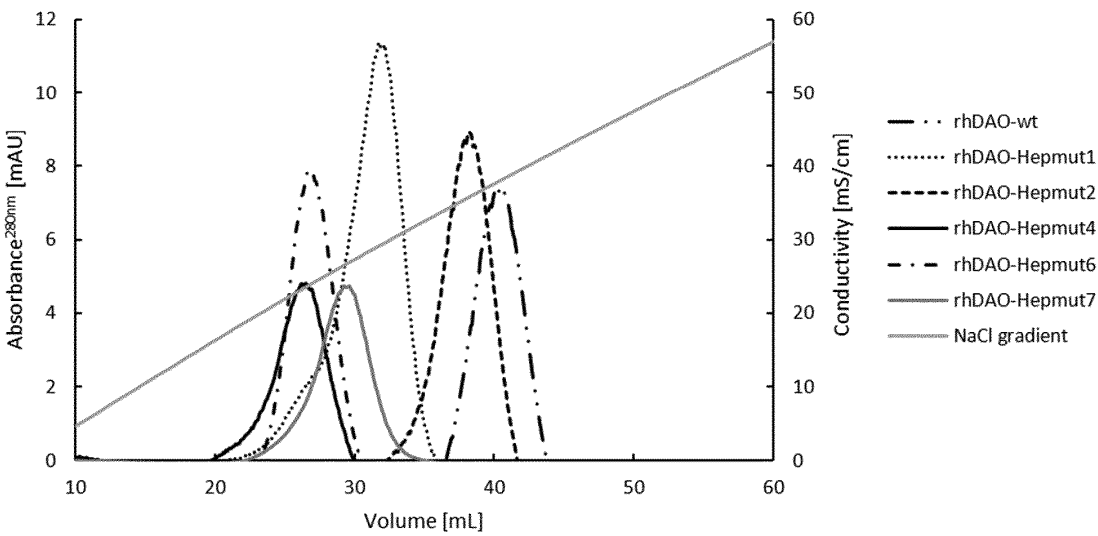


Figure 3

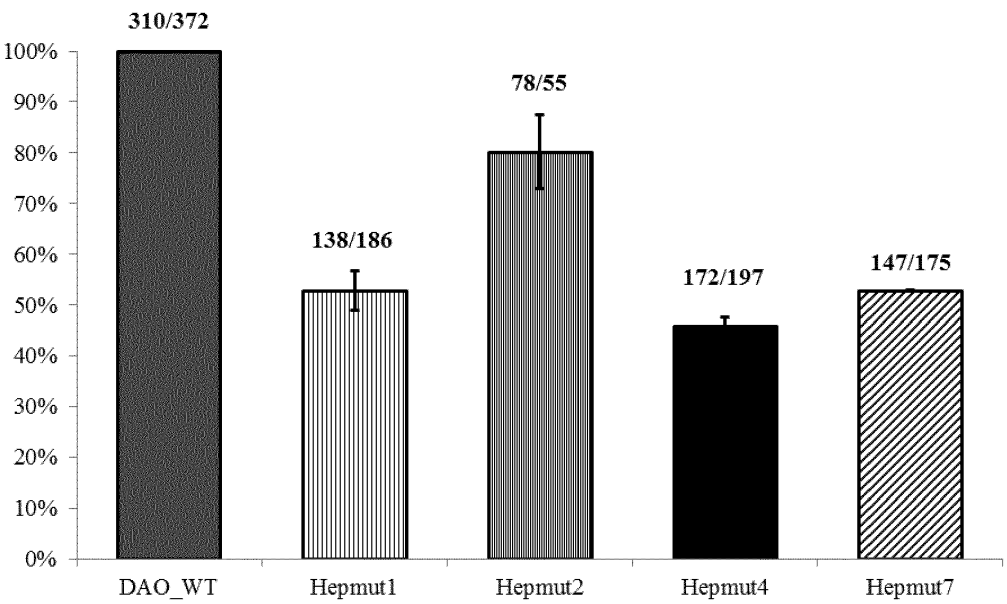


Figure 4

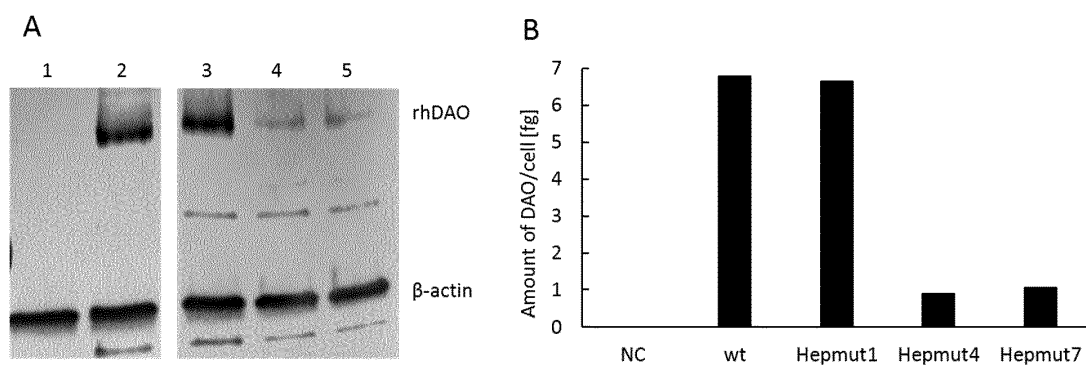


Figure 5

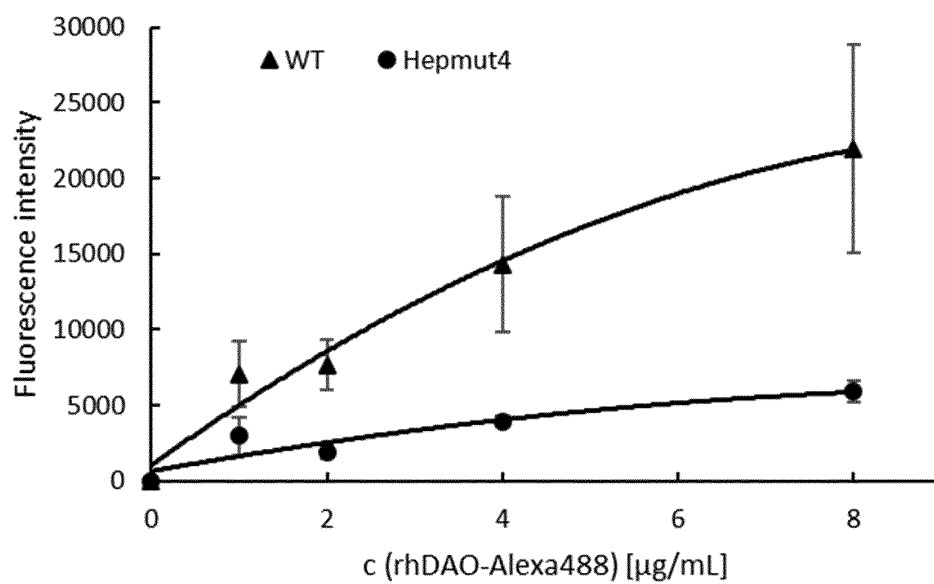


Figure 6

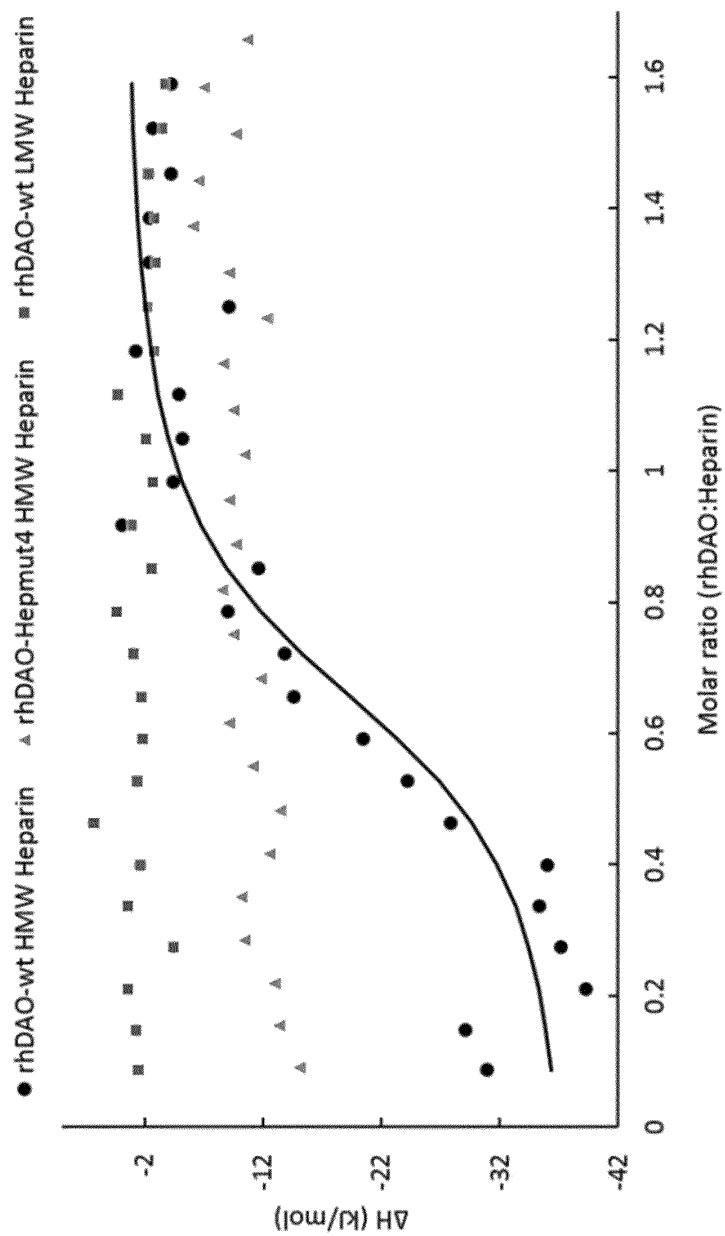
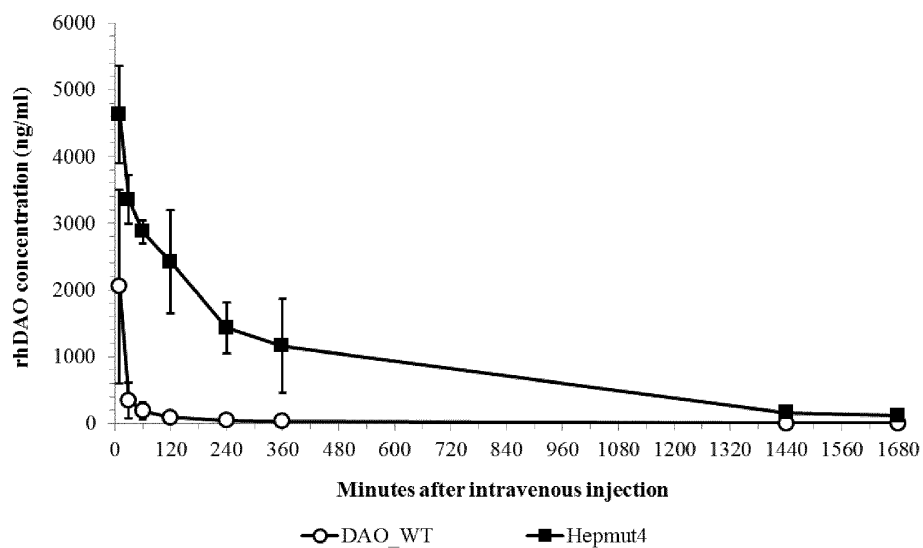


Figure 7

a)



b)



Figure 8

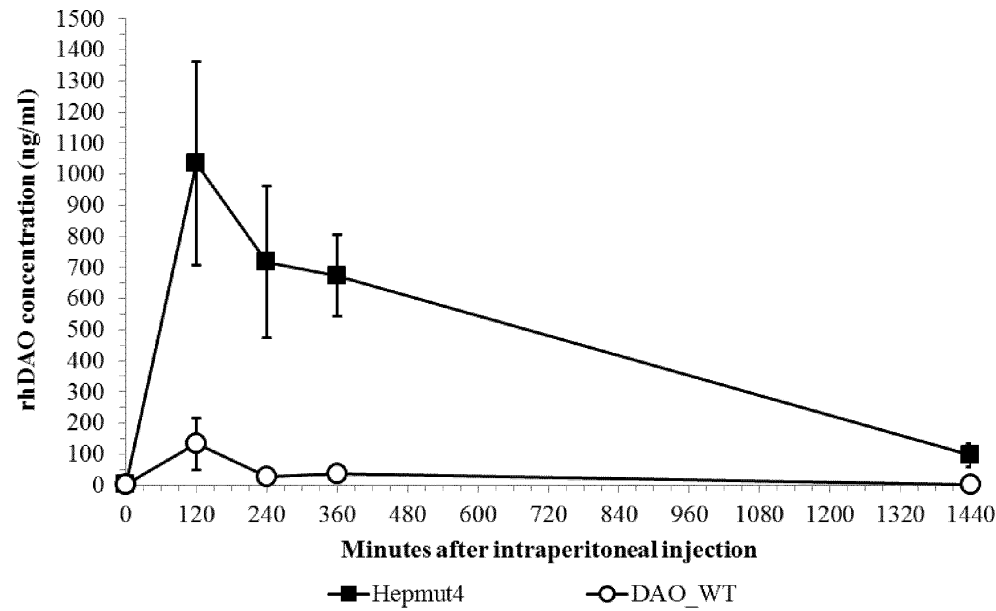


Figure 9

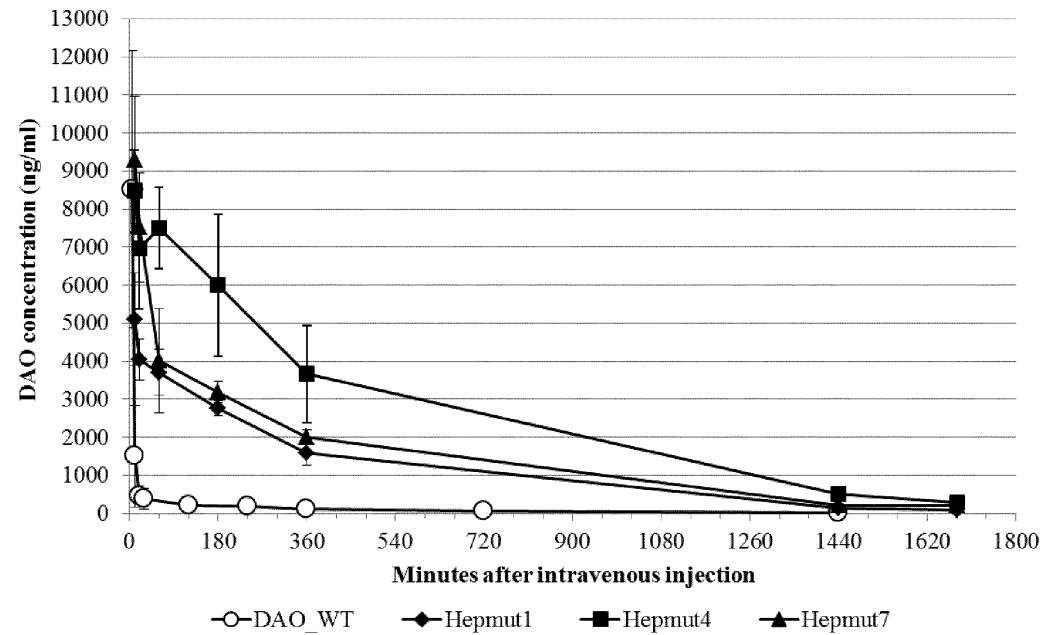


Figure 10

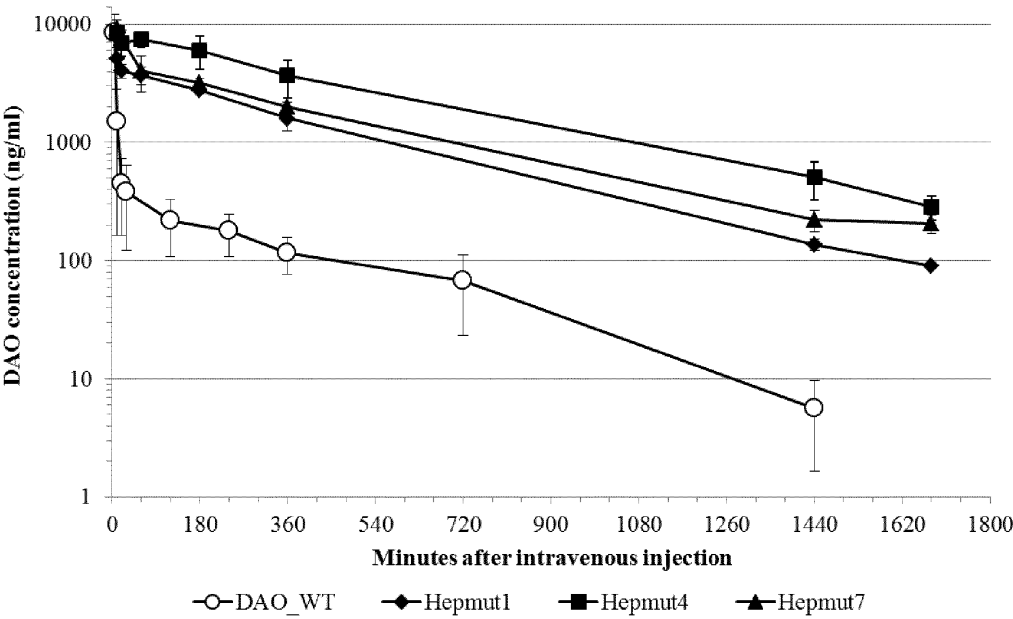


Figure 11

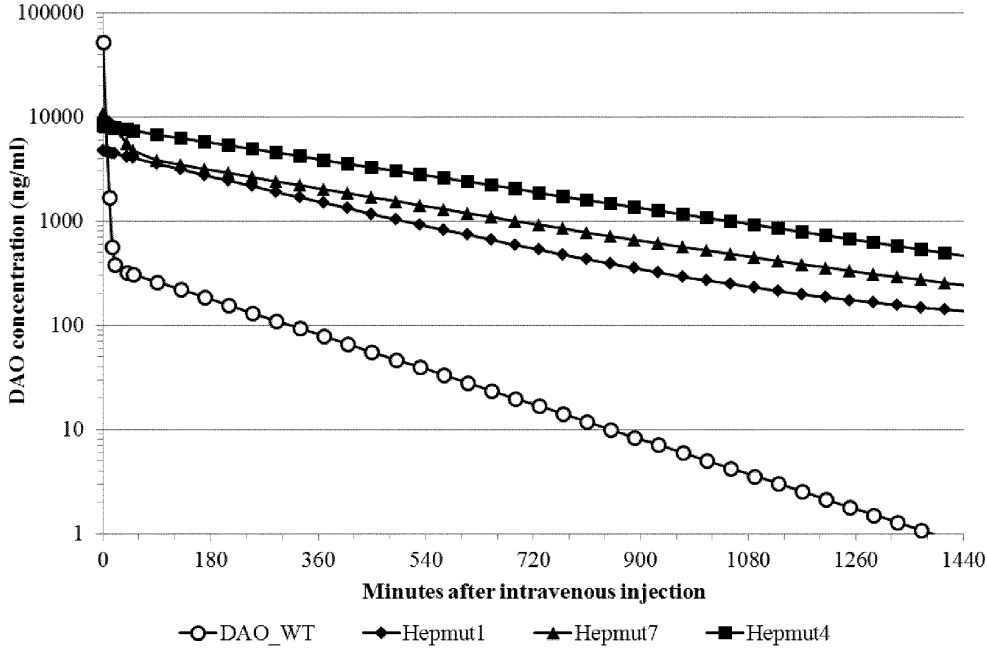


Figure 12

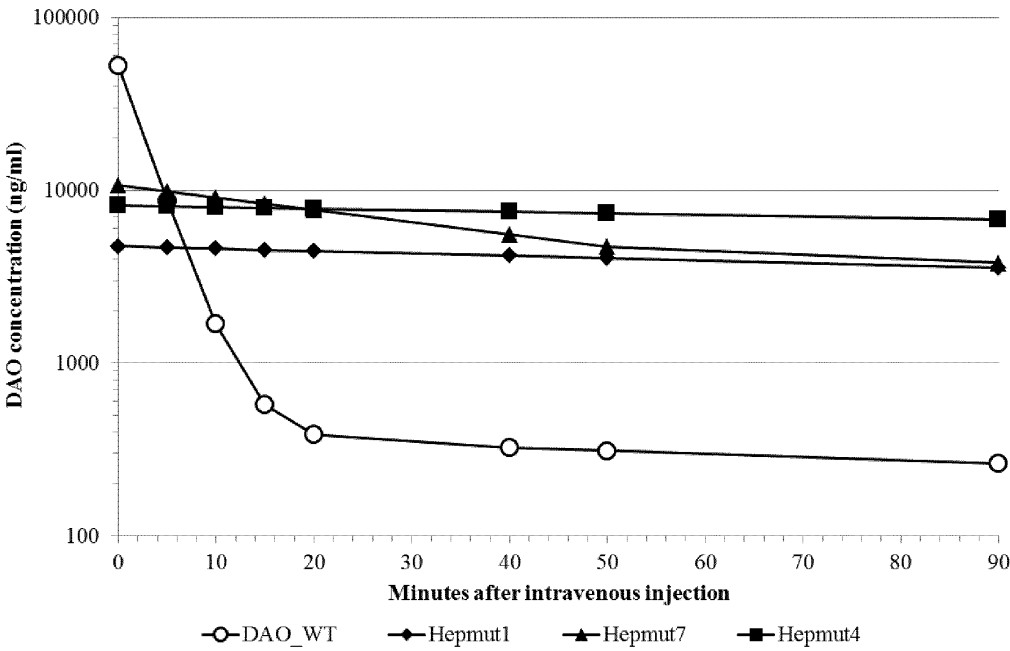


Figure 13

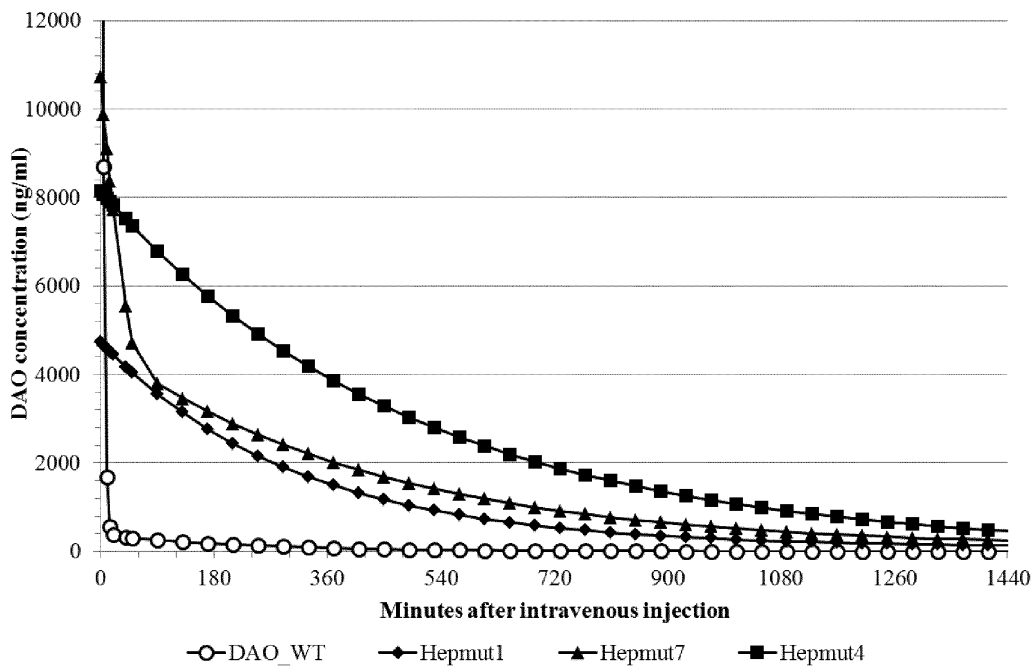


Figure 14

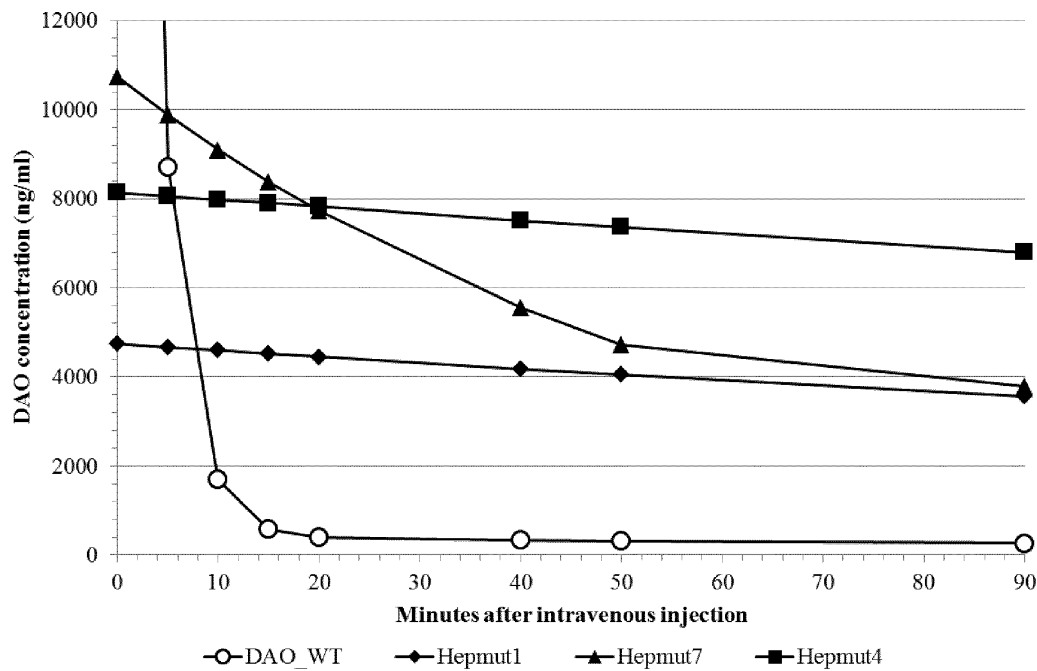


Figure 15

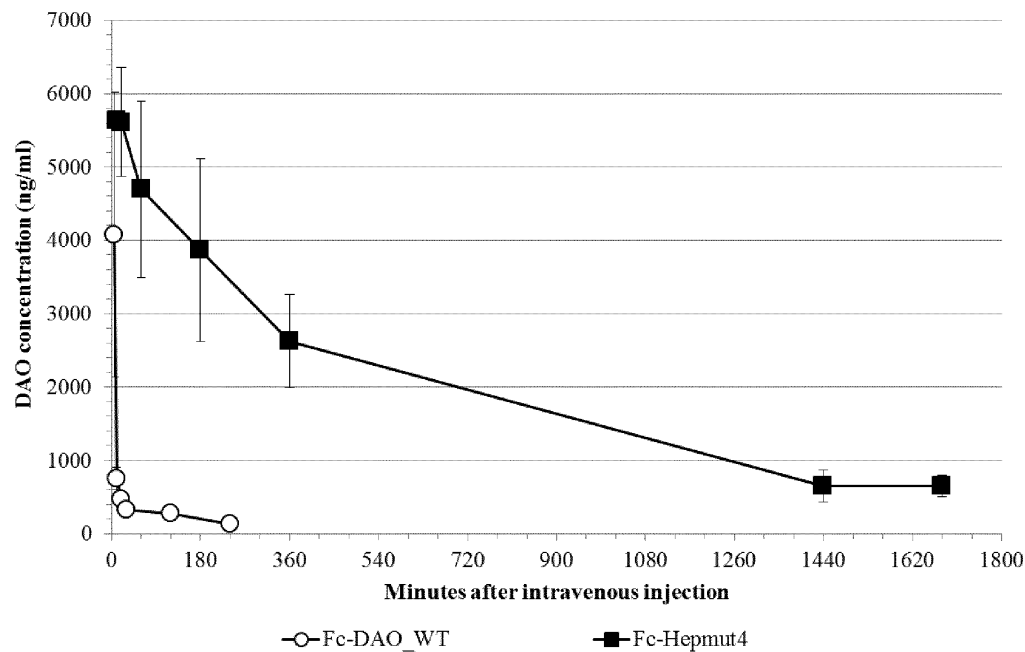


Figure 16

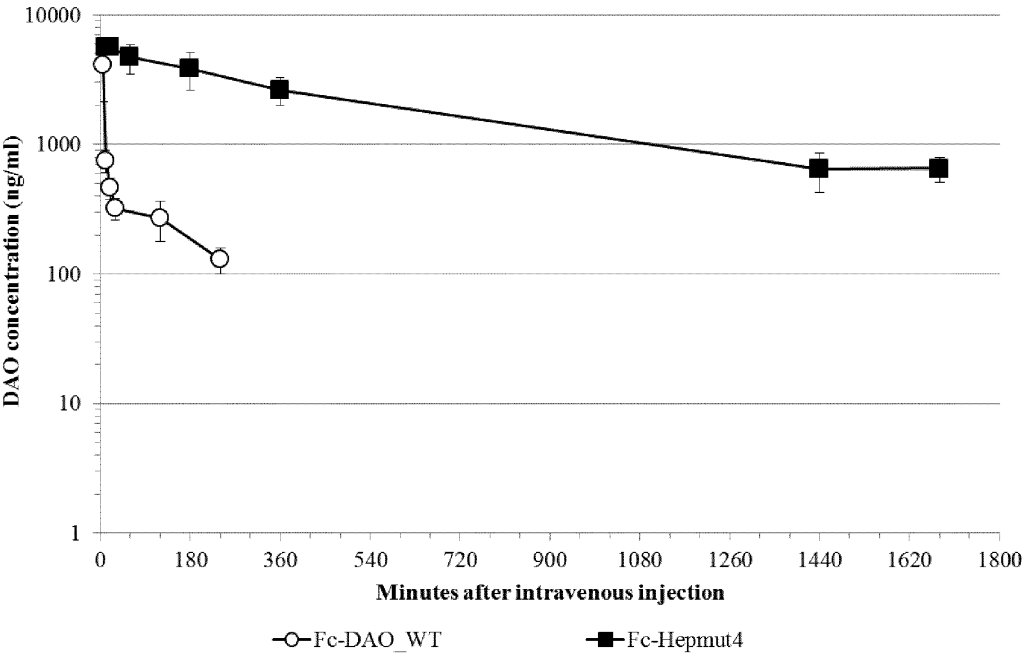


Figure 17

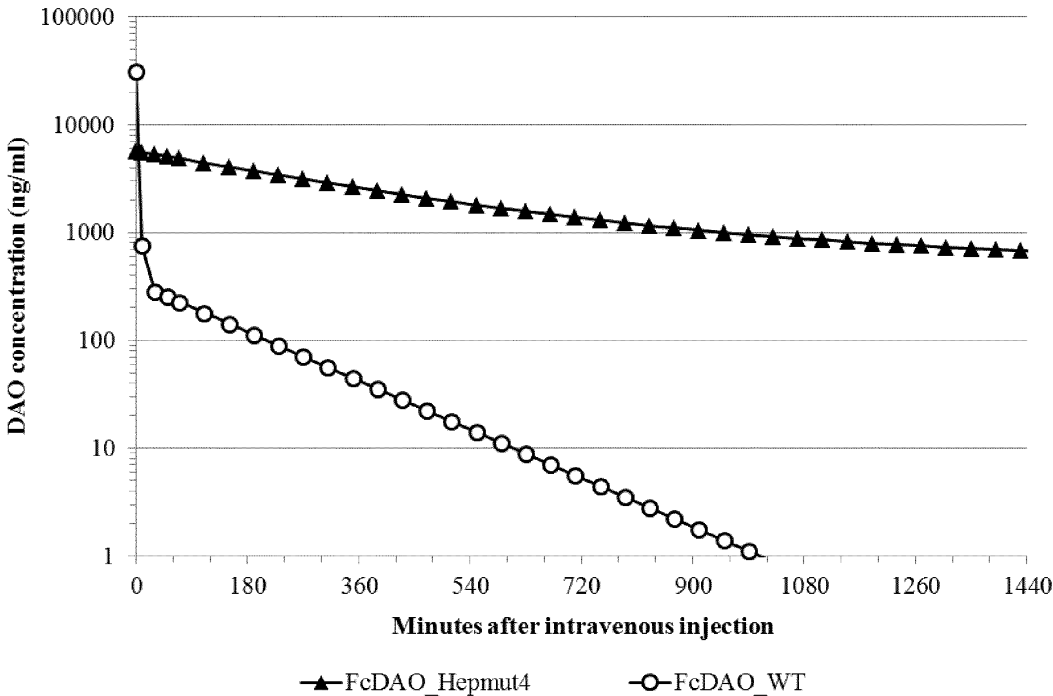


Figure 18

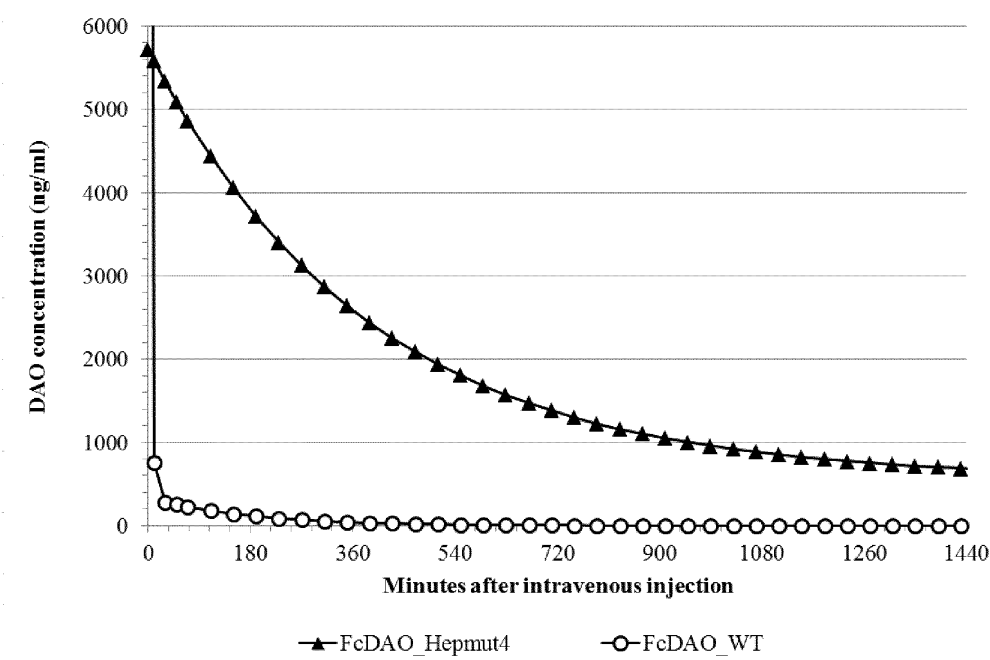


Figure 19

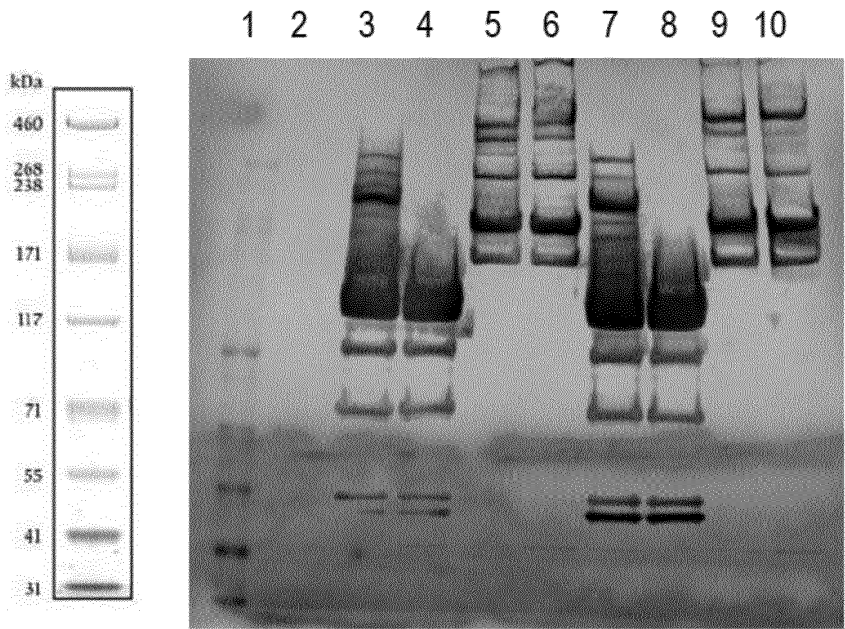


Figure 20

