

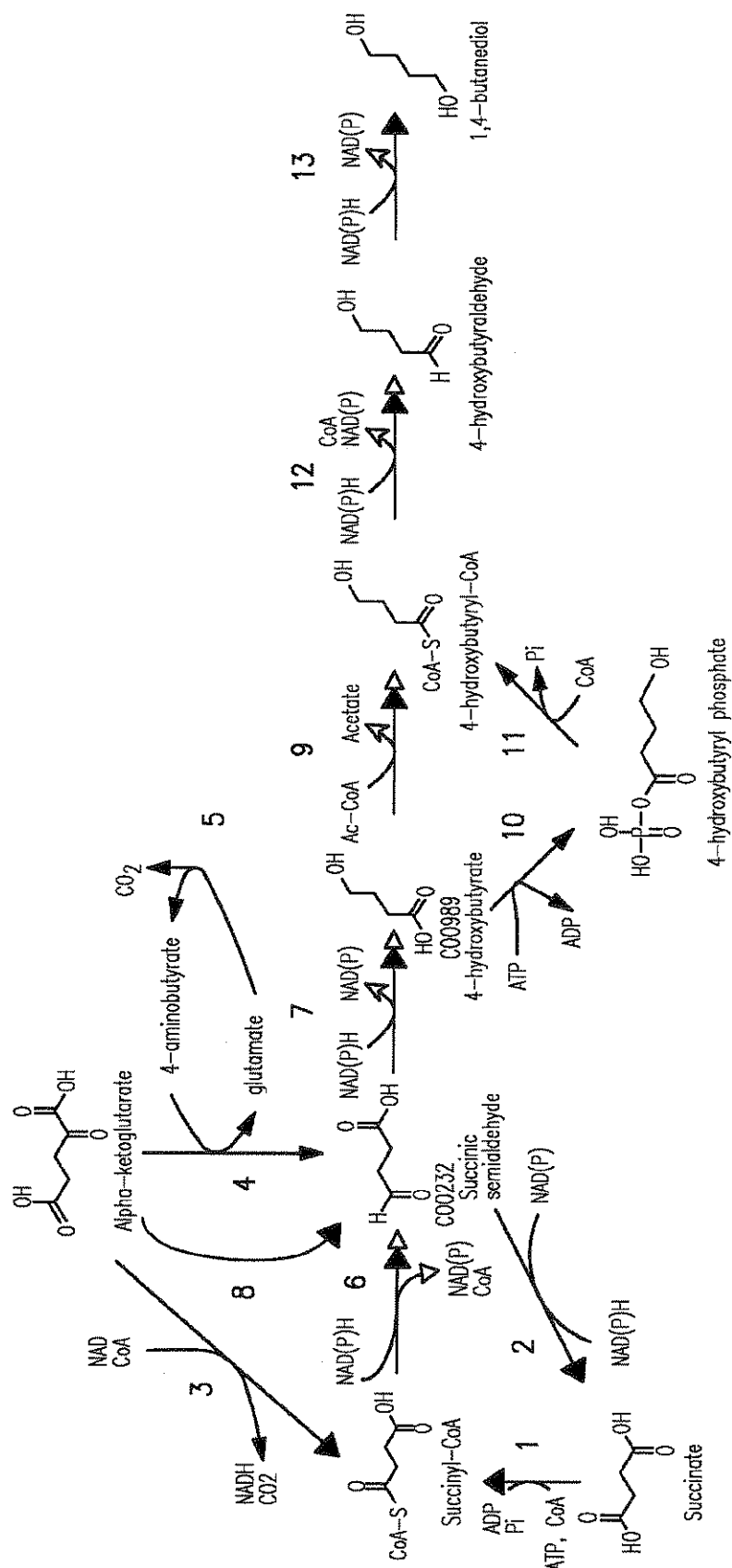


FIG. 1

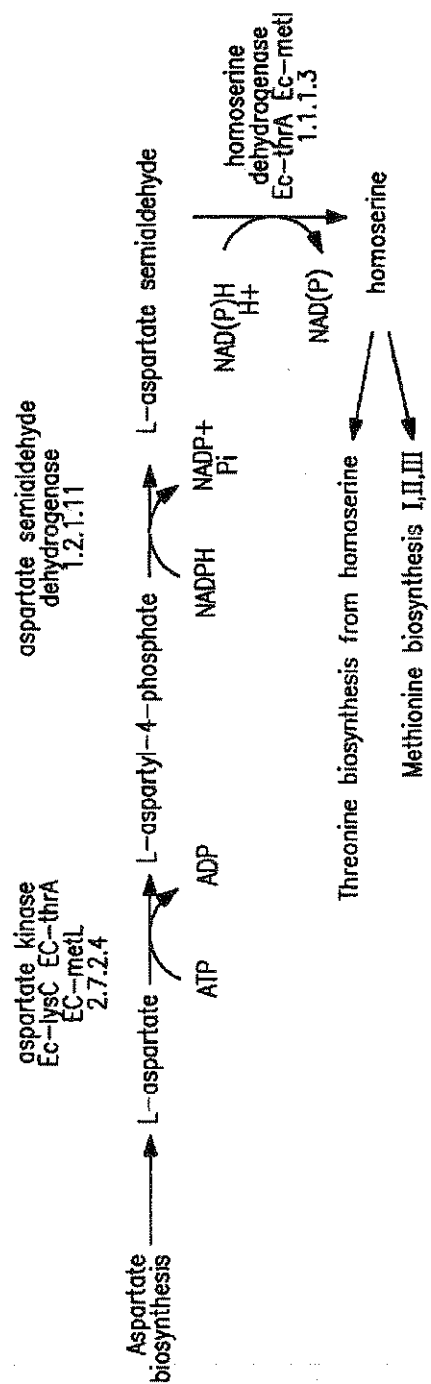


FIGURE 2

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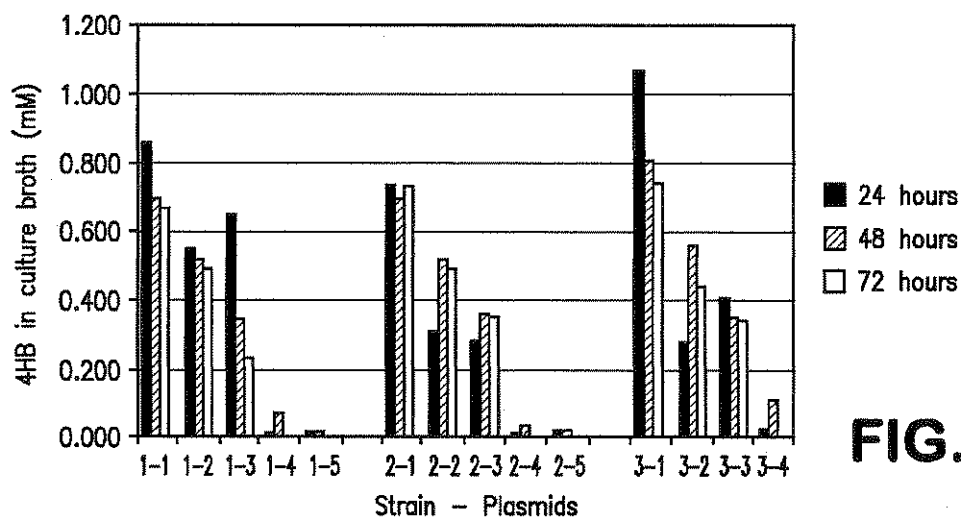


FIG. 3(a)

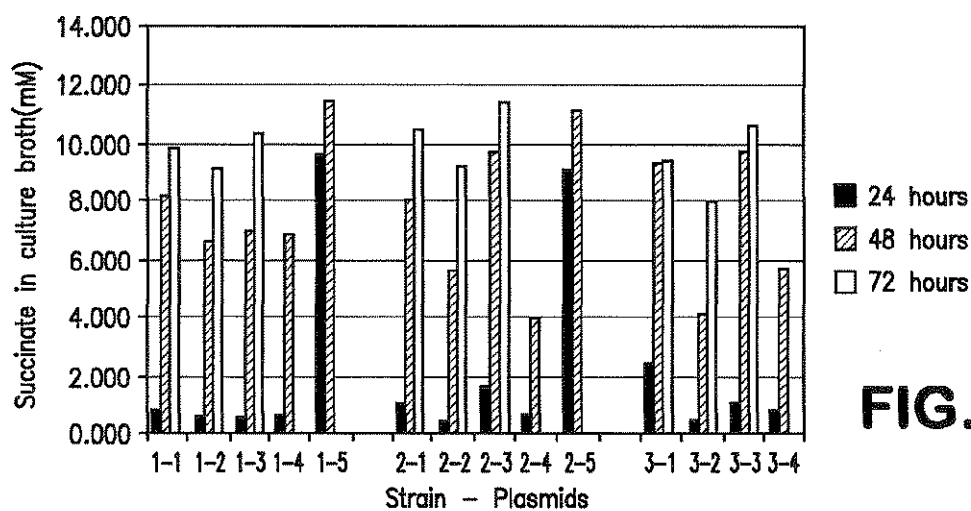


FIG. 3(b)

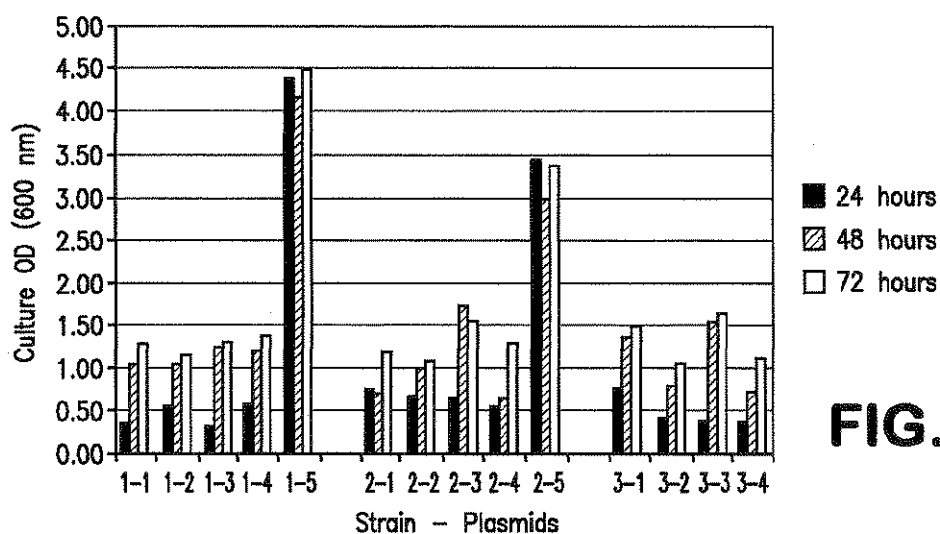


FIG. 3(c)

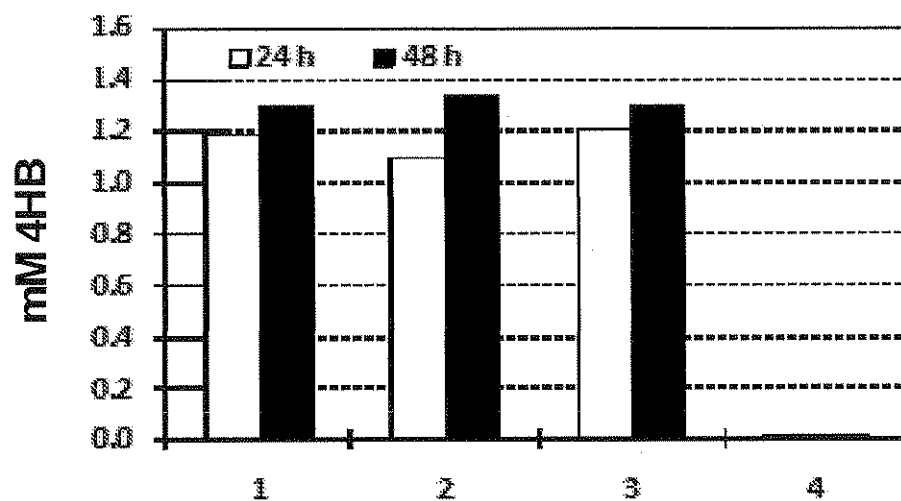
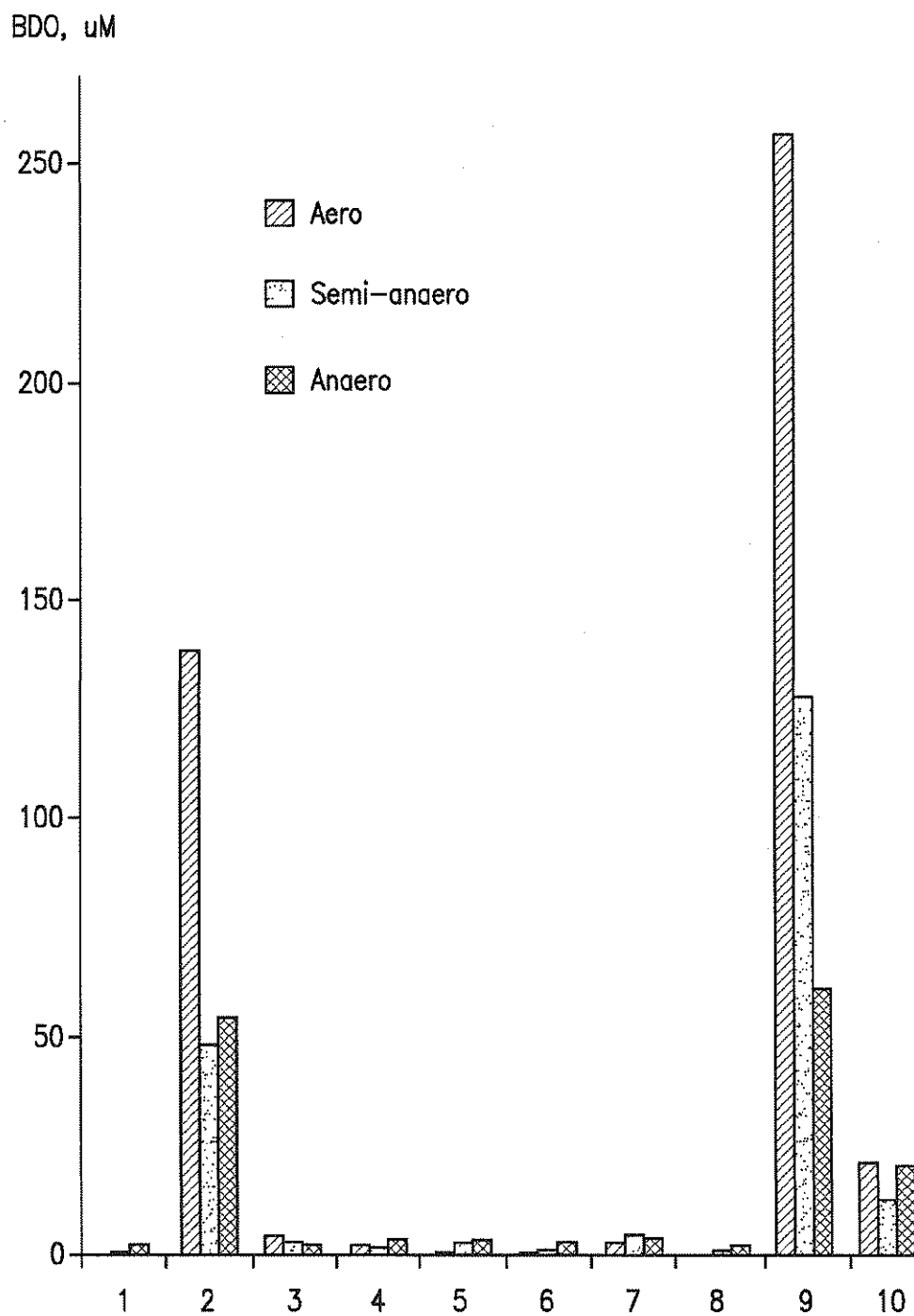
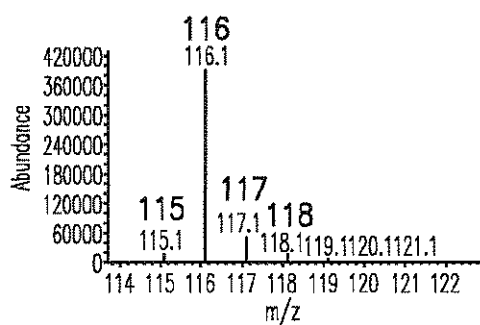
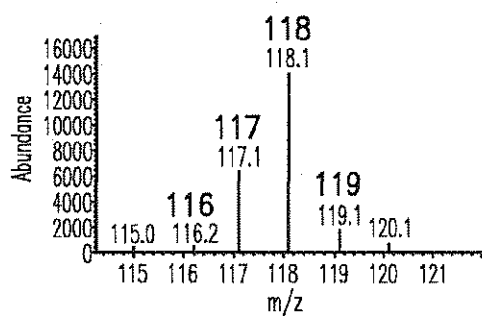
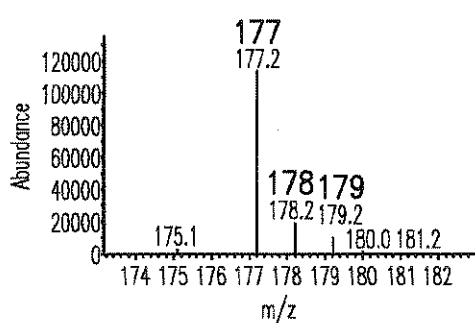
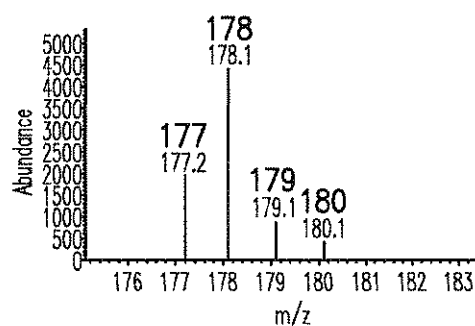
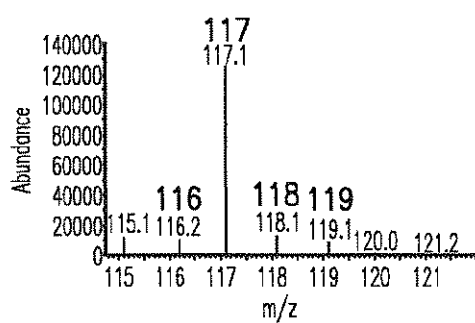
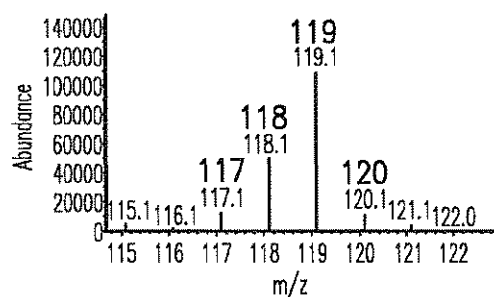
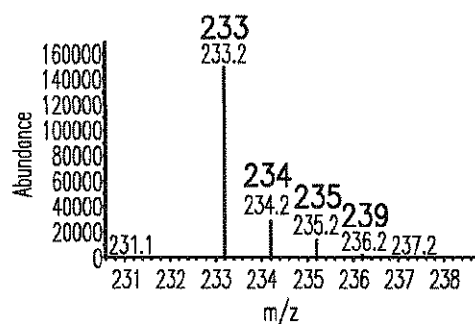
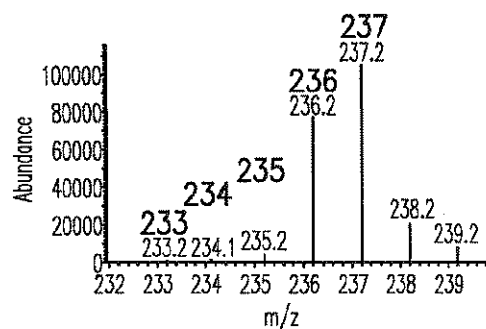


FIGURE 4

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**FIG. 5**

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**FIG. 6(a)****FIG. 6(b)****FIG. 6(c)****FIG. 6(d)****FIG. 6(e)****FIG. 6(f)****FIG. 6(g)****FIG. 6(h)**

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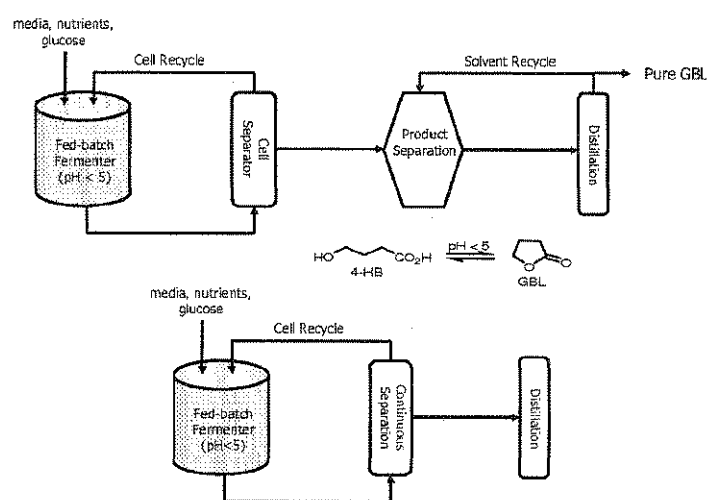


FIGURE 7

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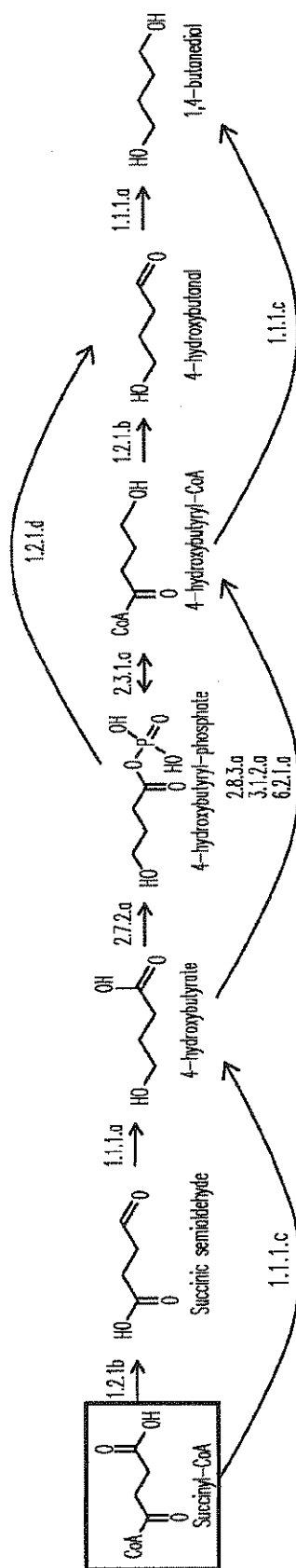


FIG. 8A

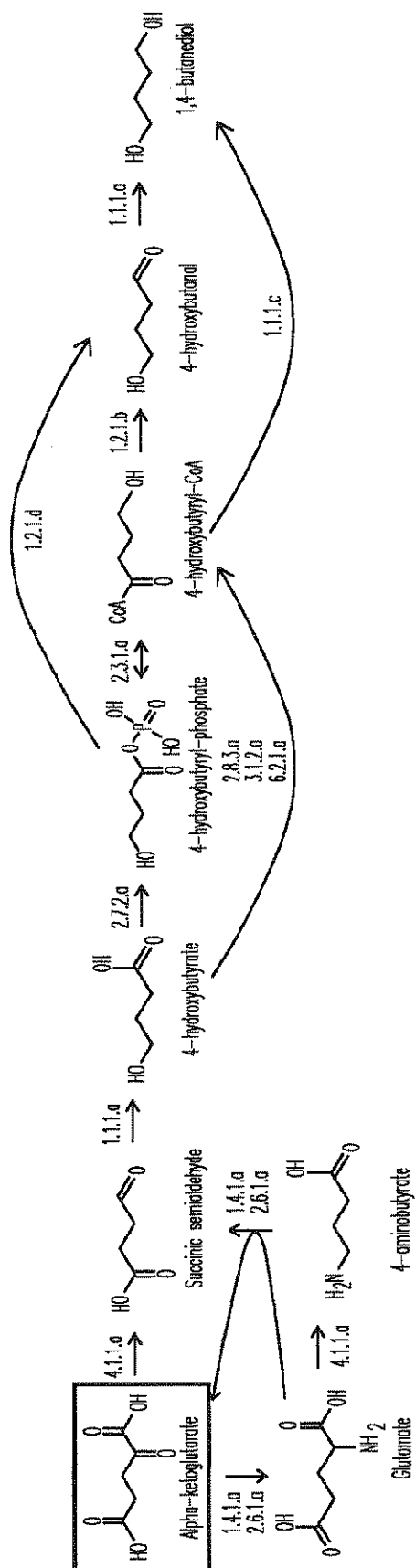
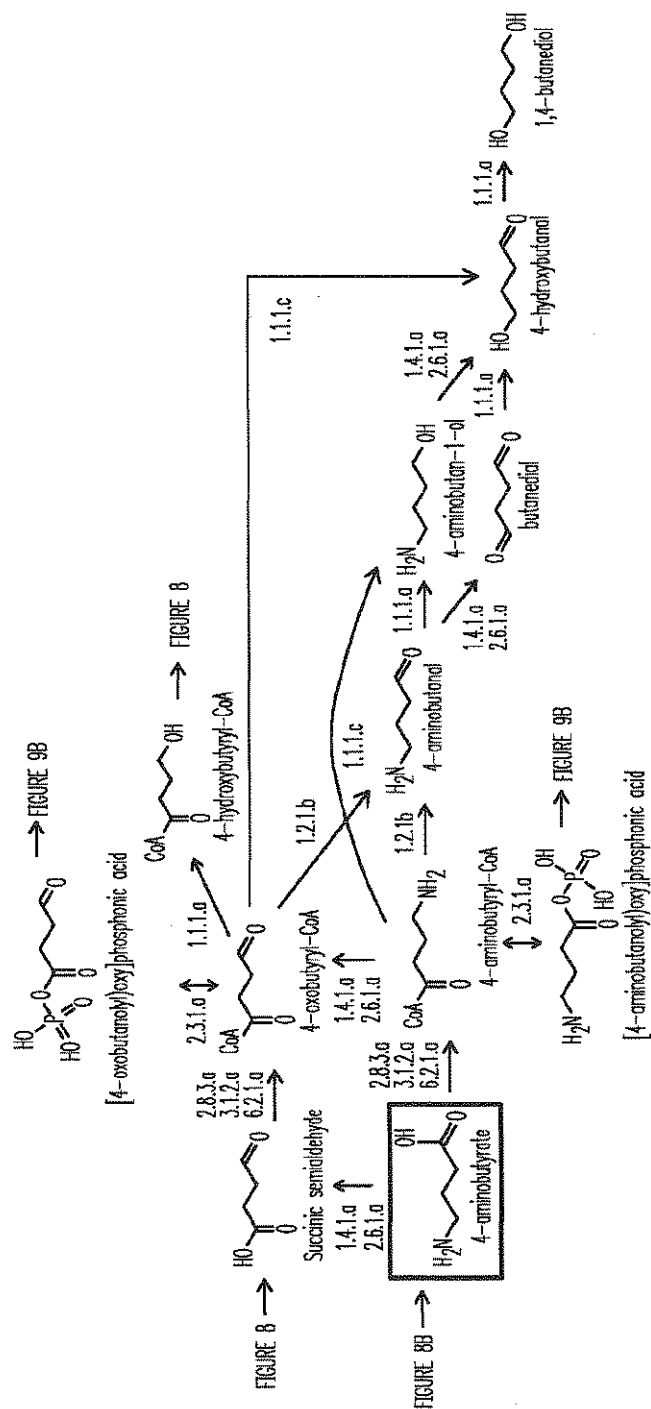


FIG. 8B

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**FIG. 9A**

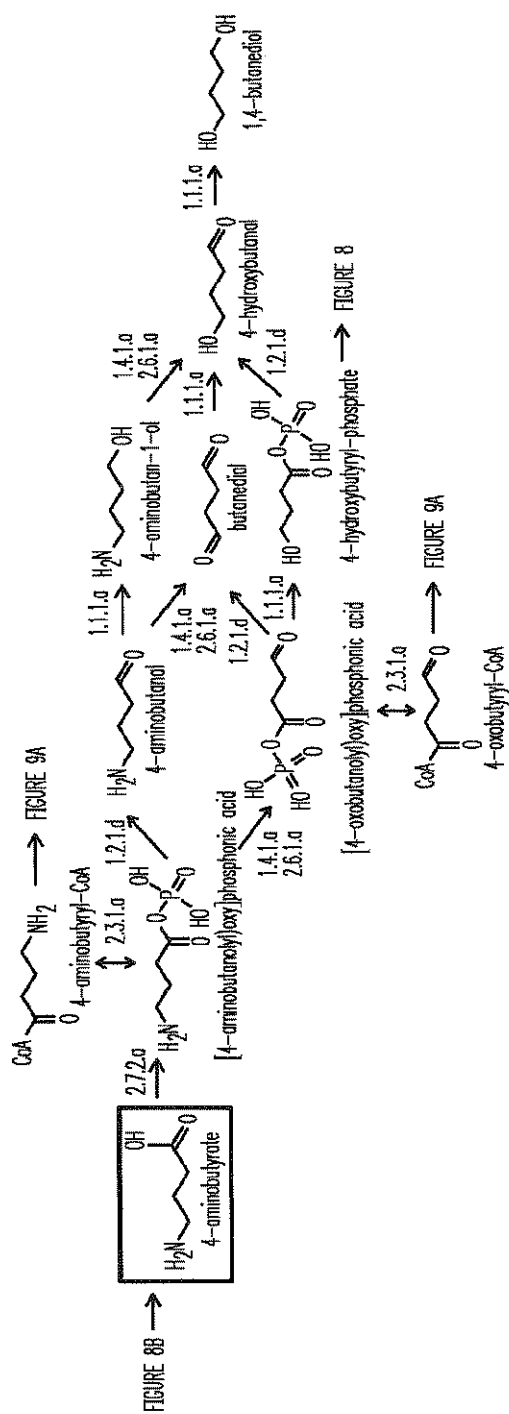


FIG. 9B

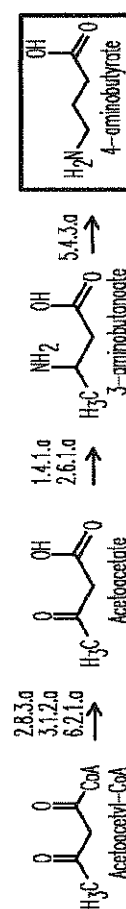


FIG. 9C

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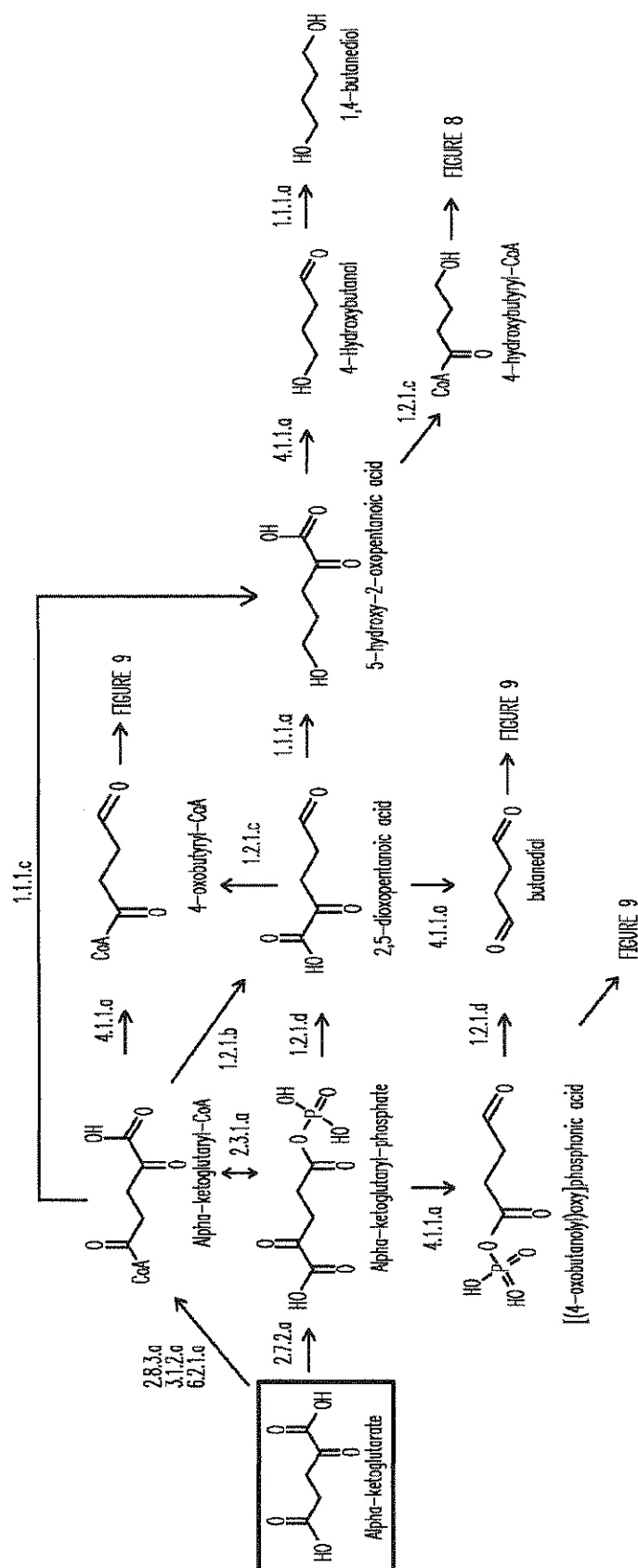


FIG. 10

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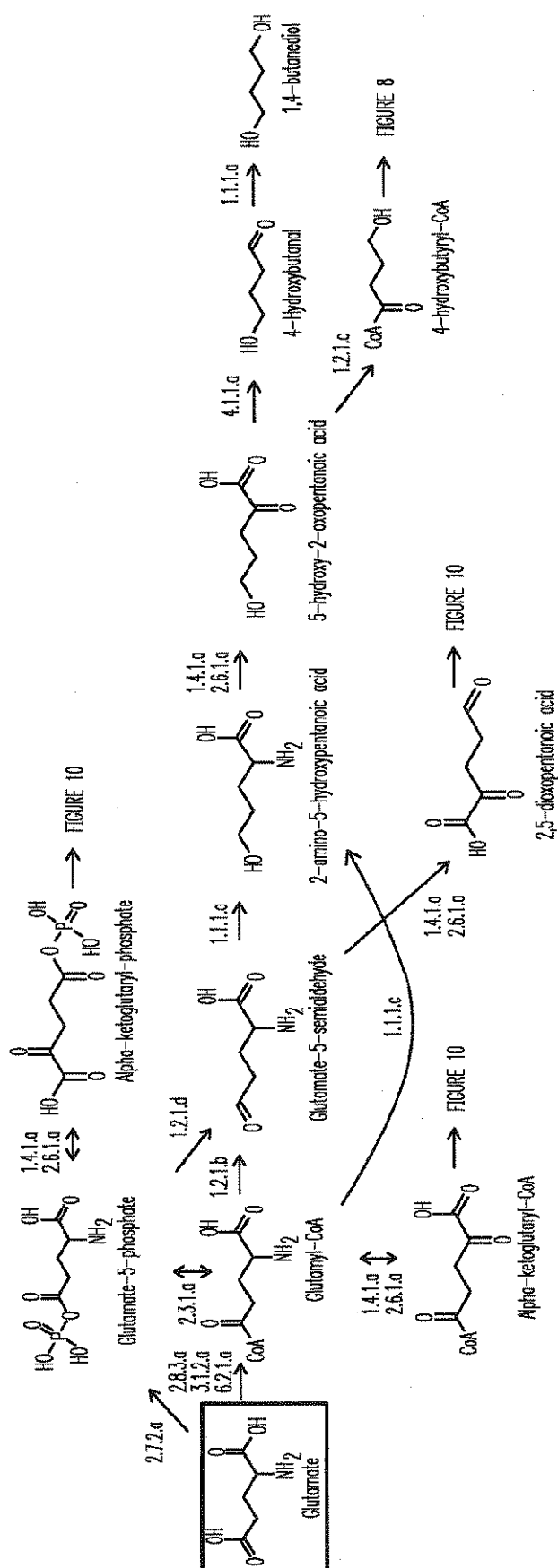


FIG. 11

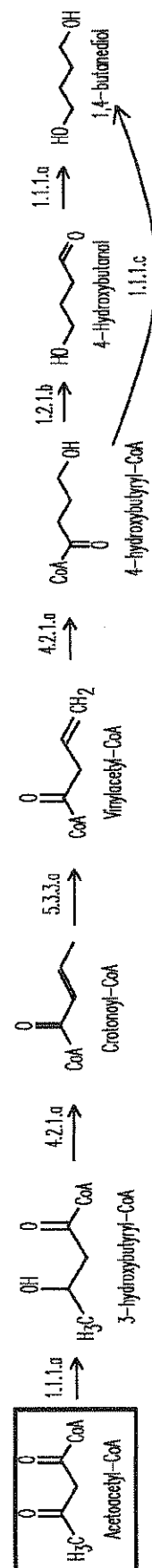
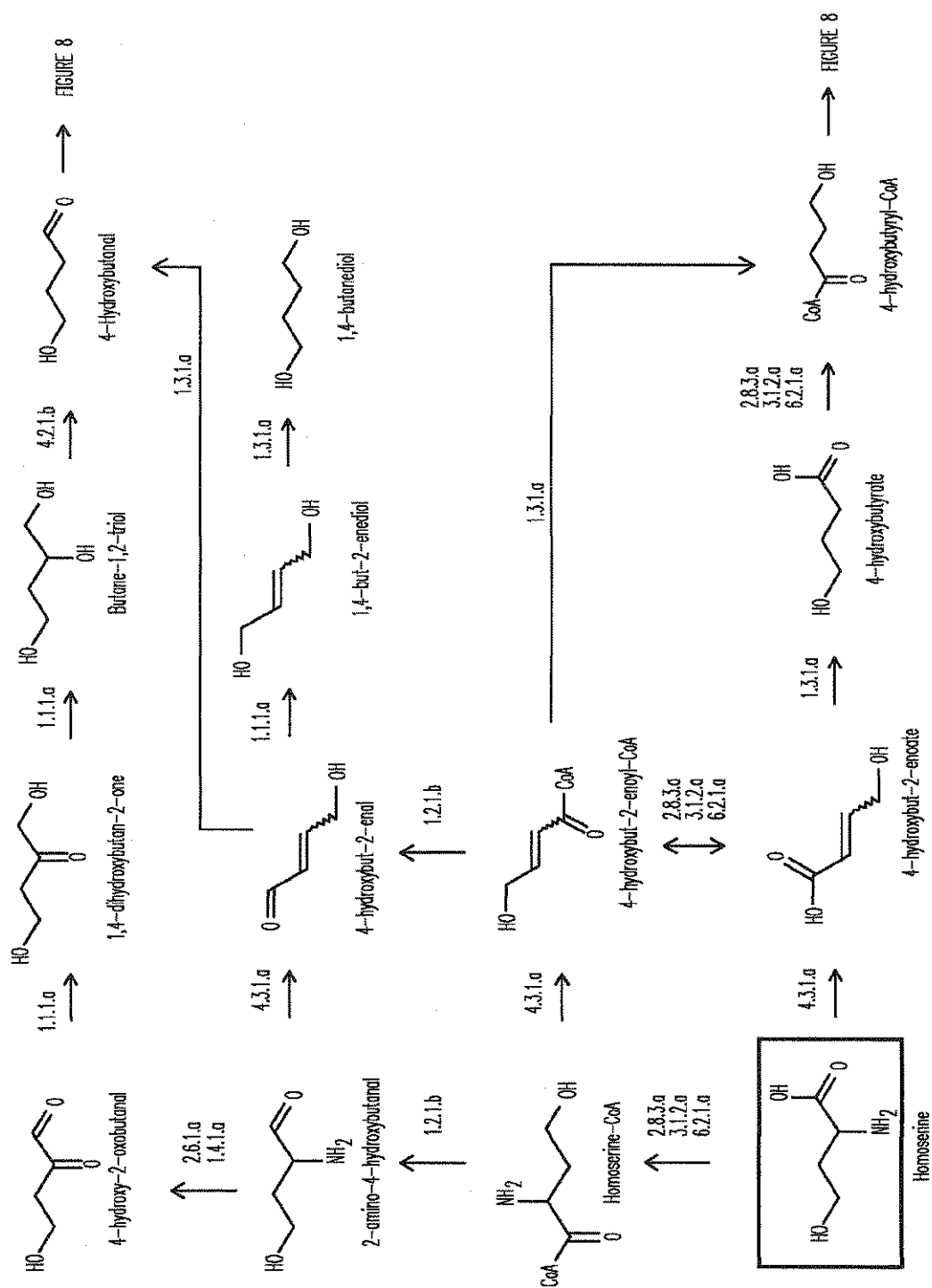


FIG. 12



13.6

A.

ATGAACTTACATGAATATCAGGCAAAACAACCTTTTGGCCGCTATGGCTTACCAGCACCGGTGGGT
ATGCCTGTACTACTCCGCGCGAAGCAGAAGAAGCCGCTTCAAAAATCGGTGCCGGTCCGTGGGTAG
TGAAATGTCAGGTTACGCTGGTGCCGCGGTAAAGCGGGCGGTGTGAAAGTTGTAAACAGCAAA
GAAGACATCCGTGCTTTGCAGAAAACCTGGCTGGGCAAGCGTCTGGTAACGTATCAAAACAGATGCC
AATGGCCAACCGGTTAACCAGATTCTGGTTGAAGCAGCGACCGATATCGCTAAAAGAGCTGTATCTCG
GTGCCGTTGTTGACCGTAGTTCCCGTCGTGTGGTCTTTATGGCCTCCACCGAAGGCGGCGTGGAAT
CGAAAAAGTGGCGGAAGAACTCCGCACCTGATCCATAAAGTTGCGCTTGATCCGCTGACTGGCCC
GATGCCGTATCAGGGACGCGAGCTGGCGTTCAAACCTGGGTCTGGAAGGTAAACTGGTTCAGCAGTT
CACCAAAATCTTCATGGGCCTGGCGACCATTTTCTGGAGCGCGACCTGGCGTTGATCGAAATCAAC
CCGCTGGTCATACCAAAACAGGGCGATCTGATTTGCCTCGACGGCAAACCTGGGCGCTGACGGCAAC
GCACTGTTCCGCCAGCCTGATCTGCGCGAAATGCGTGACCAAGTCGCAGGAAGATCCGCGTGAAGCA
CAGGCTGCACAGTGGGAACCTGAACACGTTGCGCTGGACGGTAACATCGGTTGTATGGTTAACGGC
GCAGGTCTGGCGATGGGTACGATGGACATCGTTAAACTGCACGGCGGCGAACC GGCTAATCTCTT
GACGTTGGCGGCGGCGCAACCAAGAAGCTGTAAACCGAAGCGTTCAAAATCATCTCTCTGACGAC
AAAGTGAAAGCCGTTCTGGTTAACATCTTCGGCGGTATCGTTCGTTGCGACCTGATCGCTGACGGTA
TCATCGGCGCGGTAGCAGAAGTGGGTGTTAACGTACCGGTCTGGTACGTCTGGAAGGTAACAACG
CCGAACCTCGGCGCGAAGAACTGGCTGACAGCGGCCTGAATATTATTGCAGCAAAAGGTCTGACGG
ATGCAGCTCAGCAGGTTGTTGCCGAGTGGAGGGGAAATAATGTCCATTTTAATCGATAAAAACACC
AAGGTTATCTGCCAGGGCTTACC GGTAGCCAGGGGACTTTCCACTCAGAACAGGCCATTGCATACG
GCACTAAAATGTTTGGCGGCGTAACCCAGGTAAGGCGGCACCACCCACCTCGGCCTGCCGGTGT
TCAACACCGTGCGTGAAGCCGTTGCTGCCACTGGCGCTACCGCTTCTGTTATCTACGTACCAGCACC
GTTCTGCAAAGACTCCATTCTGGAAGCCATCGACGCAGGCATCAAACCTGATTATCACCATCACTGAA
GGCATCCCGACGCTGGATATGCTGACCGTGAAGTGAAGCTGGATGAAGCAGGCGTTCTGATGATC
GGCCCGAACTGCCAGGCGTTATCACTCCGGGTGAATGCAAAATCGGTATCCAGCCTGGTCACATTC
ACAAACCGGGTAAAGTGGGTATCGTTTCCCGTTCCGGTACACTGACCTATGAAGCGGTTAAACAGAC
CACGGATTACGTTTCCGTCAGTCGACCTGTGTCGGTATCGGCGGTGACCCGATCCCGGGCTCTAAC
TTTATCGACATTCTCGAAATGTTGAAAAAGATCCGCAGACCGAAGCGATCGTGATGATCGGTGAGA
TCGGCGGTAGCGCTGAAGAAGAAGCAGCTGCGTACATCAAAGAGCACGTTACCAAGCCAGTTGTGG
GTTACATCGCTGGTGTGACTGCGCCGAAAGGCAAACGTATGGGCCACGCGGGTGCCATCATTGCCG
GTGGGAAAGGGACTGCGGATGAGAAATTCGCTGCTCTGGAAGCCGCGAGGCGTGAAAACCGTTGCG
AGCCTGGCGGATATCGGTGAAGCACTGAAAACCTGTTCTGAAATAA

B.

MNLHEYQAKQLFARYGLPAPVGYACTTPREAEAAASKIGAGPWVVKCQVHAGGRGKAGGVKVVNSKE
DIRAFAENWLGRVLTYQTDANGQPVNQILVEAATDIAKELYLGAVVDRSSRRVVFMASTEGGVEIEKV
AEETPHLIHKVALDPLTGPMPLYQGRELAFKLGLEGKLVQQFTKIFMGLATIFLERDLALIEINPLVITKQGD
ICLDGKLGADGNALFRQPDIREMRDQSQEDPREAQAAQWELNYVALDGNIGCMVNGAGLAMGTMD
IVKLHGGEPANFLDVGGGATKERVTEAFKIILSDDKVKAVLVNIFGGIVRCDLIADGIIIGAVAEVGVNVPV
VRLEGNAELGAKKLADSGLNHIAAKGLTDAAQQVVAAVEGK

C.

MSILIDKNTKVICQGTGSGQTFHSEQAIAYGTMVGGVTPGKGGTTHLGLPVFNTVREAVAATGATAS
VIYVPAPFCKDSILEAIDAGIKLIITITEGIPTLDMLTVKVLDEAGVRMIGPNCPGVITPGECKIGIQPGHIHK
PGKVGIVSRSGTLTYEAVKQTTDYGFGQSTCVGIGGDPGPSNFIDILEMFEKDPQTEAIVMIGEIGGSAEE
EAAAYIKEHVTKPVVGYIAGVTAPKGRMIGHAGAIAGGKGTADKFAALEAAGVKTVRSLADIGEALKT
VLK

FIGURE 14

A.

ATGGCCAACATAAGTTACCATTCGGGCAAAACGAATGGCTGGTTGAAGAGATGTACCGCAAGTTC
CGCGACGACCCCTCCTCGGTGATCCAGCTGGCAGAGTTCTGGTTGACTACAGCCCCGAACCCA
CCTCCCAACCAGCTGCCGAACCAACCCGGGTACCTCGCCACTCGTTGCCGAGCGGGCCGCTGCGGC
CGCCCCGCAGGCACCCCCCAAGCCGCCGACACCGCGGCCGCGGGCAACGGCGTGGTCGCCGCACT
GGCCGCCAAAACCTGCCGTTCCCCCGCCAGCCGAAGGTGACGAGGTAGCGGTGCTGCGCGGCGCCG
CCGCGGCGCTCGTCAAGAACATGTCCGCGTCTGTTGGAGGTGCCGACGGCGACCAAGCGTCCGGGCG
GTCCCGGCCAAGCTACTGATCGACAACCGGATCGTCATCAACAACCAAGTTGAAGCGGACCCGCGGC
GGCAAGATCTCGTTCACGCATTTGCTGGGCTACGCCCTGGTGACGGCGGTGAAGAAATCCCGAAC
ATGAACCGGCACTACACCGAAGTCGACGGCAAGCCCACCGCGGTACGCCGGCGCACACCAATCTC
GGCCTGGCGATCGACCTGCAAGGCAAGGACGGGAAGCGTTCCTGGTGGTGGCCGGCATCAAGCG
GTGCGAGACCATGCGATTGCGCAGTTCTGTCACGGCCTACGAAGACATCGTACGCCGGGCCCGCGA
CGGCAAGCTGACCACTGAAGACTTTGCCGGCGTGACGATTTGCTGACCAATCCCGGAACCATCGGC
ACCGTGCAATTCGGTGCCGCGGTGATGCCCGGCCAGGGCGCCATCATCGGCGTGGGCGCCATGGAA
TACCCCGCCGAGTTTCAAGGCGCCAGCGAGGAACGCATCGCCGAGCTGGGCATCGGCAAATTGATC
ACTTTGACCTCCACCTACGACCACCGCATCATCCAGGGCGCGGAATCGGGCGACTTCTGCGCACCA
TCCACGAGTTGCTGCTCTCGGATGGCTTCTGGGACGAGGTCTTCCGCGAACTGAGCATCCCATATCT
GCCGGTGCGCTGGAGCACCGACAACCCGACTCGATCGTCGACAAGAACGCTCGCGTCATGAACTT
GATCGCGGCTACCGCAACCGCGGCCATCTGATGGCCGATACCGACCCGCTGCGGTTGGACAAAGC
TCGGTTCCGCGAGTCACCCGACCTCGAAGTGCTGACCCACGGCCTGACGCTGTGGGATCTCGATCGG
GTGTTCAAGGTCGACGGCTTTGCCGGTGCGCAGTACAAGAACTGCGCGACGTGCTGGGCTTGCTG
CGCGATGCTACTGCCGCCACATCGGCGTGGAGTACGCCCATATCCTCGACCCCGAACAAGAGGAG
TGGCTCGAACAACGGGTCGAGACCAAGCACGTCAAACCCACTGTGGCCCAACAGAAATACATCCTC
AGCAAGCTCAACGCCGCCGAGGCCTTTGAAACGTTCTACAGACCAAGTACGTGCGCCAGAAGCGG
TTCTCGCTGGAAGGCGCCGAAAGCGTGATCCCGATGATGGACGCGGCGATCGACCAAGTGCCTGAG
CACGGCTCGACGAGGTGGTCATCGGGATGCCGACCGGGGCCGGCTCAACGTGCTGGCCAACATC
GTCGGCAAGCCGTAATCGCAGATCTTACCGAGTTCGAGGGCAACCTGAATCCGTGCGAGGCGCAC
GGCTCCGGTGACGTCAAGTACCACCTGGGCGCCACCGGGCTGTACCTGCAGATGTTCCGGCGACAAC
GACATTAGGTGTCGCTGACCGCCAACCCGTCGCATCTGGAGGCCGTGACCCGGTGCTGGAGGGA
TTGGTGCGGGCCAAGCAGGATCTGCTCGACCACGGAAGCATCGACAGCGACGGCCAACGGGCGTT
CTCGGTGGTGCCGCTGATGTTGCATGGCGATGCCGCTTCGCCGGTCAGGGTGTGGTCCCGGAGAC
GCTGAACCTGGCGAATCTGCCGGGCTACCGCGTCGGCGGCACCATCCACATCATCGTCAACAACCAAG
ATCGGCTTACCACCGCGCCCGAGTATTCCAGGTCCAGCGAGTACTGCACCGACGTGCAAGATGA
TCGGGGCACCGATCTTTCACGTCAACGGCGACGACCCGGAGGCGTGTGTCTGGGTGGGCGGTTGG
CGGTGGACTTCCGACAACGGTTCAAGAAGGACGTGTCATCGACATGCTGTGCTACCGCCGCGCG
GGCACAACGAGGGTGACGACCCGTGATGACCAACCCCTACATGTACGACGTGTCGACACCAAGC
GCGGGGCCCCGAAAAGCTACACCGAAGCCCTGATCGGACGTGGCGACATCTCGATGAAGGAGGCC
GAGGACGCGCTGCGCGACTACCAGGGCCAGCTGGAACGGGTGTTCAACGAAGTGCAGAGCTGGA
GAAGCACGGTGTGACGCGGAGCGAGTCGGTCGAGTCCGACCAGATGATTCCCGCGGGGCTGGCCA
CTGCGGTGGACAAGTCGCTGCTGGCCCGGATCGGCGATGCGTTCTCGCCTTGCCGAACGGCTTCAC
CGCGACCCCGGAGTCCAACCGGTGCTGGAGAAGCGCCGGGAGATGGCCTATGAAGGCAAGATCG
ACTGGGCCTTTGGCGAGCTGCTGGCGCTGGGCTCGTGGTGGCCGAAGGCAAGCTGGTGCGCTTGT
CGGGGACAGGACAGCCGCGCGCACCTTCTCCAGCGGCATTGCTTCTCATCGACCGCCACACTG
GCGAGGAGTTCACACCACTGCAGCTGCTGGCGACCAACTCCGACGGCAGCCCGACCGGCGAAAGT
TCCTGGTCTACGACTCGCCACTGTCGGAGTACGCCGCCGTGCGCTTCGAGTACGGCTACACTGTGGG
CAATCCGGACGCGGTGGTGTCTGGGAGGCGCAGTTCGGCGACTTCGTCAACGGCGCACAGTCGAT
CATCGACGAGTTCATCAGCTCCGGTGAGGGCCAAGTGGGGCCAATTGTCCAACGTCGTGCTGCTGTTA

FIGURE 15

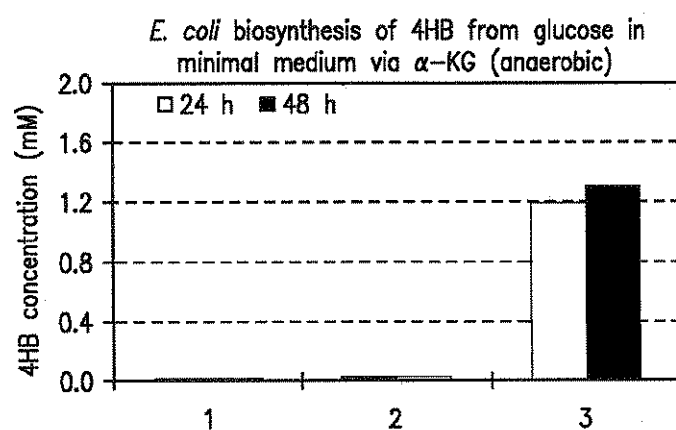
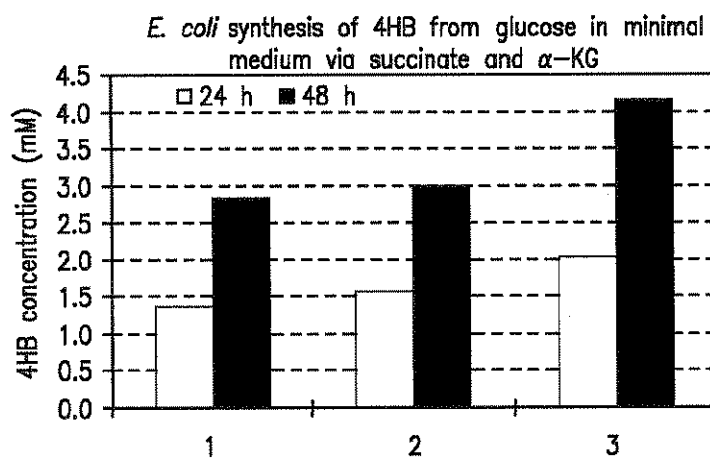
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TGGGCGGAAGGTTTCGATGACCATCGCGATGCCGTCGACTCCGTCGAACTACTTCCACCTGCTACGCC
GGCATGCCCTGGACGGCATCCAACGCCGCTGATCGTGTTACGCCCAAGTCGATGTTGCGTCACAA
GGCCGCCGTCAGCGAAATCAAGGACTTCACCGAGATCAAGTTCGCTCAGTGCTGGAGGAACCCAC
CTATGAGGACGGCATCGGAGACCGCAACAAGGTCAGCCGGATCCTGCTGACCAGTGGCAAGCTGTA
TTACGAGCTGGCCGCCCGCAAGGCCAAGGACAACCGCAATGACCTCGCGATCGTGCGGCTTGAACA
GCTCGCCCCGCTGCCAGGCGTCGACTGCGTGAAACGCTGGACCGCTACGAGAACGTCAGGAGTT
CTTCTGGGTCCAAGAGGAACCGGCCAACCAGGGTGCGTGGCCGCGATTGCGGCTCGAACTACCCGA
GCTGCTGCCTGACAAGTTGGCCGGGATCAAGCGAATCTCGCGCCGGGCGATGTCAGCCCCGTCGTC
AGGCTCGTCGAAGGTGCACGCCGTCGAACAGCAGGAGATCCTCGACGAGGCGTTCGGCTAA

B.

MANISSPFGQNEWLVEEMYRKFRDDPSSVDPSWHEFLVDYSPEPTSQPAAEPTRVTSPLVAERAAAAA
PQAPPKPADTAAAGNGVVAALAAKTAVPPPAEGDEVAVLRGAAA VVKNMSSASLEVPTATSVRAVPA
KLLIDNRIVINNQLKRTRGGKISFTHLLGYALVQAVKKFPNMNRHYTEVDGKPTAVTPAHTNLGLAIDLQ
GKDGKRLVVGAIKRCETMRFAQFVTAYEDIVRRARDGKLTTEDFAGVTISLTNPGTIGTVHSPRLMPG
QGAIIIGVGAMEYPAEFQGAEEERIAELGIGKLITLTSTYDHRHQQGAESGDFLRTIHELLSDGFWDEVFREL
SIPYLPVRWSTDNPDSIVDKNARVMNLIAAYRNRGHLMADTDPLRLDKARFRSHPDLEVLTHGLTLWDL
DRVFKVDGFAGAQYKKLRDVLGLLRDAYCRHIGVEYAHILDPEQKEWLEQRVETKHKPTVAQKYILSK
LNAAEFETFLQTKYVGQKRFSLEGAESVIPMMDAAIDQCAEHGLDEVVIGMPHRGRNLNLANIVGKPY
SQIFTEFEGLNPSQAHGSGDVKYHLGATGLYLQMFQDNDIQVSLTANPSHLEAVDPVLEGLVRAKQDL
LDHGSIDSDGQRAFSVVPLMLHGDAAFAGQGVVAETLNLNLPGYRVGGTIHIVNNQIGFTTAPEYSRS
SEYCTDVAKMIGAPIFHVNGDDPEACVWVARLAVDFRQRFKKDVIDMLCYRRRGHNEGDDPSMTNP
YMYDVVDTKRGARKSYTEALIGRGDISMKEAEDALRDYQGGQLERVFNEVRELEKHGVQPSVESDQMI
PAGLATAVDKSLLARIGDAFLALPNGFTAHPRVQPVLEKRRE MAYEGKIDWAFGELLALGSLVAEGKLVR
LSGQDSRRGTFSQRHSLIDRHTGEEFTPLQLLATNSDGSPTGGKFLVYDSPLSEYAAVGFEGYTVGNPD
AVVLWEAQFGDFVNGAQSIIDEFISSGEAKWGQLSNVLLPHGHEGQGPDHTSARIERFLQLWAEGS
MTIAMPSTPSNYFHLLRRHALDGIQRPLIVFTPKSMLRHKA AVSEIKDFTEIKFRSVLEEPTYEDGIGDRNK
VSRILLTSGKLYYELAARKAKDNRNDLAIVRLEQLAPLPRRRLRETLDREYENVKEFFWVQEEPANQGAWP
RFGLELPELLPKLAGIKRISRRAMSAPSSGSSKVHAVEQQEILDEAFG

FIGURE 15 (cont'd)

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**FIG. 16****FIG. 17**

A.

ATGGAATCAAAGAAATGGTGAGCCTTGACGCAAGGCTCAGAAGGAGTATCAAGCTACCCATAAC
CAAGAAGCAGTTGACAACATTTGCCGAGCTGCAGCAAAAGTTATTTATGAAAATGCAGCTATTCTGG
CTCGGAAGCAGTAGACGAAACCGGCATGGGCGTTTACGAACACAAAGTGGCCAAGAATCAAGGC
AAATCCAAAGGTGTTTGGTACAACCTCCACAATAAAAAATCGATTGGTATCCTCAATATAGACGAGC
GTACCGGTATGATCGAGATTGCAAAGCCTATCGGAGTTGTAGGAGCCGTAACGCCGACGACCAACC
CGATCGTTACTCCGATGAGCAATATCATCTTTGCTCTTAAGACCTGCAATGCCATCATTATTGCCCCC
ACCCAGATCCAAAAATGCTCTGCACACGCAGTTCGTCTGATCAAAGAAGCTATCGTCCGTTCAA
CGTACCGGAAGGTATGGTTCAGATCATCGAAGAACCAGCATCGAGAAGACGCAGGAACCTCATGG
GCGCCGTAGACGTAGTAGTTGTACGGGTGGTATGGGCGTGGTGAAGTCTGCATATTCTTCAGGAA
AGCCTTCTTTGGTGTGGAGCCGGTAACGTTGAGGTGATCGTGGATAGCAACATCGATTCGAAGC
TGCTGCAGAAAAATCATCACCGGTCTGTCTTCGACAACGGTATCATCTGCTCAGGCGAACAGAGC
ATCATCTACAACGAGGCTGACAAGGAAGCAGTTTTACAGCATTCCGCAACCACGGTGCATATTTCT
GTGACGAAGCCGAAGGAGATCGGGCTCGTGCAGCTATCTTCGAAAATGGAGCCATCGCGAAAGAT
GTAGTAGGTGAGAGCGTTGCCTTCATTGCCAAGAAAGCAAACATCAATATCCCCGAGGGTACCGTA
TTCTCGTTGTTGAAGCTCGCGGGCTAGGAGCAGAAGACGTTATCTGTAAGGAAAAGATGTGTCCCG
TAATGTGCGCCCTCAGCTACAAGCACTTCGAAGAAGGTGTAGAAATCGCACGTACGAACCTCGCCAA
CGAAGGTAACGGCCACACCTGTGCTATCCACTCCAACAATCAGGCACACATCATCTCGCAGGATCA
GAGCTGACGGTATCTCGTATCGTAGTGAATGCTCCGAGTGCCACTACAGCAGGCGGTACATCCAAA
ACGGTCTTGCCGTAACCAATACGCTCGGATGCGGATCATGGGGTAATAACTCTATCTCCGAGAACTT
CACTTACAAGCACCTCCTCAACATTTACGCATCGCACCGTTGAATTCAAGCATTACATCCCCGATG
ACAAAGAAATCTGGGAACCTCTAA

B.

MEIKEMVSLARKAQKEYQATHNQEAVDNICRAAAKVYIENAAILAREAVDETGMGVYEHKVAKNQGKS
KGVWYNLHNKKSIGILNIDERTGMIEIAKPIGVVGAVTPTTNPIVTPMSNIIFALKTCNAIIAPHPRSKCS
AHAVRLIKEAIAPFNVPEGMVQIIEEPSIEKTQELMGAVDVVATGGMGMVKSAYSSGKPSFGVGAGN
VQVIVDSNIDFEAAAEKIITGRAFDNGIICSQEYSIIYNEADKEAVFTAFRNHGAYFCDEAEGDRARAAIFE
NGAIKDVVGQSVAFIAKKANINIEGTRILVVEARGVGAEDVICKEKMCPVMCALSYPKHFEEGVEIARTN
LANEGNGHTCAIHSNNQAHIIILAGSELTVSRIVVNAPSATTAGGHIQNGLAVTNTLGCGSWGNNISENF
TYKHLNISRAPLNSSIHIPDDKEIWEL

FIGURE 18

A.

ATGCAACTTTTCAAACCTCAAGAGTGTAACACATCACTTTGACACTTTTGCAGAATTTGCCAAGGAATT
CTGTCTTGGAGAACGCGACTTGGTAATTACCAACGAGTTCATCTATGAACCGTATATGAAGGCATGC
CAGCTCCCCTGCCATTTTGTATGCAGGAGAAATATGGGCAAGGCGAGCCTTCTGACGAAATGATGA
ATAACATCTTGGCAGACATCCGTAATATCCAGTTCGACCGCGTAATCGGTATCGGAGGAGGTACGGT
TATTGACATCTCTAAACTTTTCGTTCTGAAAGGATTAATGATGTACTCGATGCATTCGACCGCAAAA
TACCTCTTATCAAAGAGAAAGAACTGATCATTGTGCCACAACATGCGGAACGGGTAGCGAGGTGA
CGAACATTTCTATCGCAGAAATCAAAGCCGTACACCAAAATGGGATTGGCTGACGATGCCATTGT
TGCAGACCATGCCATCATACCTGAACCTCTGAAGAGCTTGCCCTTCCACTTCTACGCATGCAGTG
CAATCGATGCTCTTATCCATGCCATCGAGTCATACGTATCTCCTAAAGCCAGTCCATATTCTCGTCTGT
TCAGTGAGGCGGCTTGGGACATTATCCTGGAAGTATTCAAGAAAATCGCCGAACACGGCCCTGAAT
ACCGCTTCGAAAAGCTGGGAGAAATGATCATGGCCAGCAACTATGCCGGTATAGCCTTCGGAAATG
CAGGAGTAGGAGCCGTCCACGCACTATCCTACCCGTTGGGAGGCAACTATCACGTGCCGCATGGAG
AAGCAAATATCAGTTCTTACAGAGGTATTCAAAGTATACCAAAAGAAGAATCCTTTCGGCTATAT
AGTCGAACTCAACTGGAAGCTCTCAAGATACTGAACTGCCAGCCCGAATACGTATATCCGAAGCTG
GATGAACTTCTCGGATGCCTTCTACCAAGAAACCTTTGCACGAATACGGCATGAAGGACGAAGAG
GTAAGAGGCTTTGCGGAATCAGTGCTTAAGACACAGCAAAGATTGCTCGCCAACAACCTACGTAGAG
CTTACTGTAGATGAGATCGAAGGTATCTACAGAAGACTCTACTAA

B.

MQLFKLSVTHHFDTFAEFAKEFCLGERDLVITNEFIYEPYMKACQLPCHFVMQEKYGGGEPSDEMMN
NILADIRNIQFDRVIGGGTVIDISKLFVLKGLNDVLDADFDRKIPLIKEKELIIVPTTCGTGSEVTNISIAEIKSR
HTKMGLADDAIVADHAIIPPELLKSLPFHFYACSAIDALIHAIESYVSPKASPYSRLFSEAAWDIILEVFKKIAE
HGPEYRFEKLGEMIMASNYAGIAFGNAGVGAVHALSYPLGGNYHVPHGEANYQFFTEVFKVYQKKNPF
GYIVELNWKLSKILNCQPEYVYPKLDDELLGCLLTKKPLHEYGMKDDEVRGFAESVLKTQQRLLANNYVELT
VDEIEGIYRRLY

FIGURE 19

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A.

ATGAAAGACGTATTAGCGGAATATGCCTCCCGAATTGTTTCGGCCGAAGAAGCCGTAAACATATCA
AAAATGGAGAACGGGTAGCTTTGTACATGCTGCCGGAGTTCCTCAGAGTTGTGTTGATGCACTGGT
ACAACAGGCCGACCTTTTCCAGAATGTCGAAATTTATCACATGCTTTGTCTCGGCGAAGGAAAATAT
ATGGCACCTGAAATGGCCCCCTCACTTCGACACATAACCAATTTTGTAGGTGGTAATTCTCGTAAAGC
AGTTGAGGAAAATAGAGCCGACTTCATTCCGGTATTCTTTTATGAAGTGCCATCAATGATTCGCAAA
GACATCCTTCACATAGATGTCGCCATCGTTCAGCTTTCAATGCCTGATGAGAATGGTTACTGTAGTTT
TGGAGTATCTTGCGATTATAGCAAACCGGCAGCAGAAAGCGCTCATTTAGTTATAGGGGAAATCAA
CCGTCAAATGCCATATGTACATGGCGACAACCTTGATTCACATATCGAAGTTGGATTACATCGTGATG
GCAGACTACCTATCTATTCTTTCGAAAGCCCCAAAATCGGAGAAGTAGAAGAAGCTATCGGGCGTA
ATTGTGCCGAGCTTATTGAAGATGGTGCCACACTCCAACCTCGGTATCGGCGCGATTCTCTGATGCAGC
CCTGTTATTCCTCAAGGACAAAAAAGATCTGGGGATCCATACCGAGATGTTCTCCGATGGTGTGTC
GAATTAGTTCGAGTGGAGTAATTACAGGAAAGAAAAAGACACTTCACCCCGGAAAGATGGTCGCA
ACCTTCTTAATGGGAAGCGAAGACGTATATCATTTTCATCGACAAAAATCCCGATGTAGAATTTATCC
GGTAGATTACGTCAATGATCCGCGAGTAATCGCTCAAAATGATAATATGGTCAGCATCAATAGCTGT
ATCGAAATCGATCTTATGGGACAAGTCGTGTCCGAATGTATAGGAAGCAAGCAATTCAGCGGAACC
GGCGGTCAAGTAGATTATGTTCTGTGGAGCAGCATGGTCTAAAAACGGCAAAAGCATCATGGCAATT
CCCTCAACAGCCAAAAACGGTACTGCATCTCGAATTGTACCTATAATTGCAGAGGGAGCTGCTGTAA
CAACCTCCGCAACGAAGTCGATTACGTTGTAACCGAATACGGTATAGCACAACCTCAAAGGAAAGA
GTTTGCGCCAGCGAGCAGAAGCTTATTGCCATAGCCCCACCCGGATTTCAGAGAGGAACTAACGA
AACATCTCCGCAAACGTTTCGGATAA

B.

MKDVLAEYASRIVSAEEAVKHIKNGERVALSHAAGVPQSCVDALVQQADLFQNV EYHMLCLGEGKYM
APEMAPHFRHITNFVGGNSRKAVEENRADFIPVFFYEVPSMIRKDILHIDVAIVQLSMPDENG YCSFGVS
CDYSKPAAESAHLVIGEINRQMPYVHGDNLHISKLDYIVMADYPIYSLAKPKIGEVEEAIGRNCAELIEDG
ATLQLGIGAIPDAALLFLKDKDLGIHTEMFSDGVVELVRSGVITGKKKTLHPGKMVATFLMGSEDVYHFI
DKNPDV ELYPDYVNDPRVIAQNDNMVSINSCIEIDLMGQVVSECIGSKQFSGTGGQVDYVRGAAWSK
NGKSIMAI PSTAKNGTASRIVPIIAEGAAVTTLRNEVDYVVTEYGIAQLKGKSLRQRAEALIAIHPDFREEL
TKHLRKRFG

FIGURE 20

A.

ATGATTAAGAGTTTTTAATGAAATTATCATGAAGGTAAAGAGCAAAGAAATGAAAAAAGTTGC
TGTTGCTGTAGCACAAAGACGAGCCAGTACTTGAAGCAGTAAGAGATGCTAAGAAAAATGGTA
TTGCAGATGCTATTCTTGTGGAGACCATGACGAAATCGTGTCAATCGCGCTTAAAAATAGGA
ATGGATGTAAATGATTTTGAATAGTAAACGAGCCTAACGTTAAGAAAGCTGCTTTAAAGGC
AGTAGAGCTTGTATCAACTGGAAAAGCTGATATGGTAATGAAGGGACTTGTAATACAGCAA
CTTTCTTAAGATCTGTATTAACAAAGAAGTTGGACTTAGAACAGGAAAACTATGTCTCAC
GTTGCAGTATTTGAACTGAGAAATTTGATAGACTATTATTTTAAACAGATGTTGCTTTCAA
TACTTATCCTGAATTAAGGAAAAAATTGATATAGTAAACAATTCAGTTAAGGTTGCACATG
CAATAGGAATTGAAATCCAAAGGTTGCTCCAATTTGTGCAGTTGAGGTTATAAACCCCTAAA
ATGCCATCAACACTTGATGCAGCAATGCTTTCAAAAATGAGTGACAGAGGACAAATTAAAGG
TTGTGTAGTTGACGGACCTTTAGCACTTGATATAGCTTTATCAGAAGAAGCAGCACATCATA
AGGGAGTAACAGGAGAAGTTGCTGGAAAAGCTGATATCTTCTTAATGCCAAACATAGAAACA
GAAAATGTAATGTATAAGACTTTAACATATACAAGTATTCAAAAAATGGAGGAATCTTAGT
TGGAACCTTCTGCACCAGTTGTTTTAACTTCAAGAGCTGACAGCCATGAAACAAAAATGAACT
CTATAGCACTTGACAGCTTTAGTTGCAGGCAATAAATAA

B.

MIKSFNEIIMKVKSKEKKVAVAVAVQDEPVLEAVRDAKKNGIADAILVGDHDEIVSIALKIG
MDVNDFEIVNEPNVKKAAALKAVELVSTGKADMVMKGLVNTATFLRSVLNKEVGLRTGKTMSH
VAVFETEFDRLLFLTDVAFNTYPELKEKIDIVNNSVKVAHAIGIENPKVAPICAVEVINPK
MPSTLDAAMLSKMSDRGQIKGCVVDGPLALDIALSEEAHHKGVTEVAGKADIFLMPNIET
GNVMYKTLTYTTDSKNGGILVGTSAVVLTISRADSHETKMNSIALAALVAGNK

FIGURE 21

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A.

ATGTATAGATTACTAATAATCAATCCTGGCTCGACCTCAACTAAAATTGGTATTTATGACGA
TGAAAAAGAGATATTTGAGAAGACTTTAAGACATTCAGCTGAAGAGATAGAAAAATATAACA
CTATAITTTGATCAATTTCAATTCAGAAAAGAAATGTAATTTTAGATGCGTTAAAAGAAGCAAAC
ATAGAAGTAAGTTCTTTAAATGCTGTAGTTGGAAGAGGCGGACTCTTAAAGCCAATAGTAAG
TGGAAC TTATGCAGTAAATCAAAAAATGCTTGAAGACCTTAAAGTAGGAGTTCAAGGTCAGC
ATGCGTCAAATCTTGGTGGAATTATTGCAAATGAAATAGCAAAAGAAATAAATGTTCCAGCA
TACATAGTTGATCCAGTTGTTGTGGATGAGCTTGATGAAGTTTCAAGAATATCAGGAATGGC
TGACATTTCCAAGAAAAAGTATATTCCATGCATTAAATCAAAAAGCAGTTGCTAGAAGATATG
CAAAAGAAGTTGGAAAAAATACGAAGATCTTAATTTAATCGTAGTCCACATGGGTGGAGGT
ACTTCAGTAGGTACTCATAAAGATGGTAGAGTAATAGAAGTTAATAATACACTTGATGGAGA
AGGTCCATTCTCACCAGAAAGAAGTGGTGGAGTTCCAATAGGAGATCTTGTAAGATTGTGCT
TCAGCAACAAATATACTTATGAAGAAGTAATGAAAAAGATAAACGGCAAAGGCGGAGTTGTT
AGTTACTTTAAATACTATCGATTTTAAGGCTGTAGTTGATAAAGCTCTTGAAGGAGATAAGAA
ATGTGCACTTATATATGAAGCTTTCACATTCCAGGTAGCAAAAGAGATAGGAAAATGTTCAA
CCGTTTTTAAAAGGAAATGTAGATGCAATAATCTTAACAGGCGGAATTGCGTACAACGAGCAT
GTATGTAATGCCATAGAGGATAGAGTAAATTCATAGCACCTGTAGTTAGATATGGTGGAGA
AGATGAACTTCTTGCACTTGCAAGAGGTGGACTTAGAGTTTAAAGAGAGAAGAAAAAGCTA
AGGAATACAAATAA

B.

MYRLLIINPGSTSTKIGIYDDEKEIFEKTLRHSAAEEIEKYNTIFDQFQFRKNVILDALKEAN
IEVSSSLNAVVGRRGGLLKPIVSGTYAVNQKMLEDLKVGVGQGHASNLGGIIANEIAKEINVPA
YIIVDPVVVDELDEVSRISGMADIPRKSIFHALNQKAVARRYAKEVGGKYEDLNLIVVHMGGG
TSVGT HKDGRVIEVNNTLDGEGPFSPPERSGGVPIGDLVRLCFSNKYTYEEVMKKINGKGGVV
SYLNTIDFKAVVDKALEGDKKCALIYEFTFQVAKEIGKCSTVLKGNVDAILLTGGIAYNEH
VCNAIEDRVKFIAPVVRYGGEDELLALAEGLRVLRGEEKAKEYK

FIGURE 22

A.

ATGATTAAGAGTTTTAATGAAATTATCATGAAGGTAAAGAGCAAAGAAATGAAAAAAGTTGC
TGTTGCTGTAGCACAAAGACGAGCCAGTACTTGAAGCAGTACGCGATGCTAAGAAAAATGGTA
TTGCAGATGCTATTCTTGTGGCGACCATGACGAAATCGTGTCAATCGCGCTTAAAAATAGGC
ATGGATGTAAATGATTTTGAAATAGTAAACGAGCCTAACGTTAAGAAAGCTGCTTTAAAGGC
AGTAGAGCTGGTATCAACTGGAAAAAGCTGATATGGTAATGAAGGGACTTGTAATAACAGCAA
CTTTCTTACGCTCTGTATTAAACAAAGAAGTTGGACTGAGAACAGGAAAAACTATGTCTCAC
GTTGCAGTATTTGAAACTGAGAAATTTGATCGTCTGTATTATTTTAAACAGATGTTGCTTTCAA
TACTTATCCTGAATTAAAGGAAAAAATTGATATCGTAAACAATTCAGTTAAGGTTGCACATG
CAATAGGTATTGAAAAATCCAAAGGTTGCTCCAATTTGTGCAGTTGAGGTTATAAACCCTAAA
ATGCCATCAACACTTGATGCAGCAATGCTTTCAAAAATGAGTGACAGAGGACAAATTAAAGG
TTGTGTAGTTGACCGACCGTTAGCACTTGATATCGCTTTATCAGAAGAAGCAGCACATCATA
AGGGCGTAACAGGAGAAGTTGCTGGAAAAGCTGATATCTTCTTAATGCCAAACATTGAAACA
GGAAATGTAATGTATAAGACTTTAACATAIACAACTGATAGCAAAAATGGCGGAATCTTAGT
TGGAACCTTCTGCACCAGTTGTTTTAACTTCACGCGCTGACAGCCATGAAACAAAAATGAACT
CTATTGCACTTGCAGCTTTAGTTGCAGGCAATAAATAA

B.

ATGATTAAGAGTTTTAATGAAATTATCATGAAGGTAAAGAGCAAAGAAATGAAAAAAGTTGC
TGTTGCTGTAGCACAAAGACGAGCCAGTACTTGAAGCAGTACGCGATGCTAAGAAAAATGGTA
TTGCCGATGCTATTCTGGTTGGCGACCATGACGAAATCGTGTCTATCGCGCTGAAAAATAGGC
ATGGATGTAAATGATTTTGAAATTGTTAACGAGCCTAACGTTAAGAAAGCTGCGTTAAAGGC
AGTAGAGCTGGTATCAACTGGAAAAGCTGATATGGTAATGAAGGGACTGGTAAATACCGCAA
CTTTCTTACGCTCTGTATTAAACAAAGAAGTTGGTCTGCGTACAGGAAAAACCATGTCTCAC
GTTGCAGTATTTGAAACTGAGAAATTTGATCGTCTGTATTATTTTAAACAGATGTTGCTTTCAA
TACTTATCCTGAATTAAAGGAAAAAATTGATATCGTTAAACAATAGCGTTAAGGTTGCACATG
CCATTGGTATTGAAAAATCCAAAGGTTGCTCCAATTTGTGCAGTTGAGGTTATTAACCCGAAA
ATGCCATCAACACTTGATGCAGCAATGCTTTCAAAAATGAGTGACCGCGGACAAATTAAAGG
TTGTGTAGTTGACCGACCGCTGGCACTTGATATCGCTTTATCAGAAGAAGCAGCACATCATA
AAGGGCGTAACAGGAGAAGTTGCTGGAAAAGCTGATATCTTCTTAATGCCAAACATTGAAACA
GGAAATGTAATGTATAAGACGTTAACCTATACCACTGATAGCAAAAATGGCGGCATCCTGGT
TGGAACCTTCTGCACCAGTTGTTTTAACTTCACGCGCTGACAGCCATGAAACAAAAATGAACT
CTATTGCACTGGCAGCGCTGGTTGCAGGCAATAAATAA

FIGURE 23

C.

ATGATTAAGAGTTTTAATGAAATTATCATGAAGGTAAAGAGCAAAGAAATGAAAAAAGTTGC
TGTTGCTGTTGCACAAGACGAGCCGGTACTGGAAGCGGTACGCGATGCTAAGAAAAATGGTA
TTGCCGATGCTATTCTGGTTGGCGACCATGACGAAATCGTCTCTATCGCGCTGAAAAATGGC
ATGGAIGTTAATGATTTTGAAATTGTTAACGAGCCTAACGTTAAGAAAGCTGCGCTGAAGGC
GGTAGAGCTGGTTTCCACCGGAAAAGCTGATATGGTAATGAAAGGGCTGGTGAATACCGCAA
CTTCTTACGCAGCGTACTGAACAAAGAAGTTGGTCTGCGTACCGGAAAAACCATGAGTCAC
GTTGCGGTATTTGAACTGAGAAATTTGATCGTCTGCTGTTTCTGACCGATGTTGCTTTCAA
TACTTATCCTGAATTAAAAAGAAAAAATTGATATCGTTAACAATAGCGTTAAGGTTGCGCATG
CCATTGGTATTGAAAAATCCAAAGGTTGCTCCAATTTGTGCAGTTGAGGTTATTAACCCGAAA
ATGCCATCAACACTTGATGCCGCAATGCTTAGCAAAATGAGTGACCGCGGACAAATTAAAGG
TTGTGTGGTTGACGGCCCGCTGGCACTGGATATCGCGTTAAGCGAAGAAGCGGCACATCATA
AAGGCGTAACCGGCGAAGTTGCTGGAAAAGCTGATATCTTCTGATGCCAAACATTGAAACA
GGCAATGTAATGTATAAAACGTTAACCTATACCACTGATAGCAAAAATGGCGGCATCTGGT
TGGAACTTCTGCACCAGTTGTTTTAACCTCACGCGCTGACAGCCATGAAACCAAAATGAACA
GCATTGCACTGGCAGCGCTGGTTGCAGGCAATAAATAA

D.

ATGATTAAGAGTTTTAATGAAATTATCATGAAGGTAAAGAGCAAAGAAATGAAAAAAGTTGC
GGTTGCGGTGCGCAGGATGAACCGGTGCTGGAAGCGGTGCGCGATGCCAAAAAATGGTA
TTGCCGATGCCATTCTGGTGGGCGATCAGATGAAATTGTCTCTATTGCGCTGAAAAATGGC
ATGGAIGTTAACGATTTTGAAATTGTTAATGAACCGAACGTGAAAAAGCGGCGCTGAAAGC
GGTTGAAGTGGTTTCCACCGGTAAAGCCGATATGGTATGAAAGGGCTGGTGAATACCGCAA
CCTTCTGCGCAGCGTGCTGAATAAAGAAGTGGTCTGCGTACCGGTAAAACCATGAGTCAT
GTTGCGGTGTTTGAAACCGAAAAAATTGACCGTCTGCTGTTTCTGACCGATGTTGCGTTTAA
TACCTATCCGGAAGTGAAGAGAAAAATTGATATCGTTAATAACAGCGTGAAAGTGGCGCATG
CCATTGGTATTGAAAACCCGAAAGTGGCGCCGATTTGCGCGGTTGAAGTGATTAACCCGAAA
ATGCCGTCAACGCTGGATGCCGCGATGCTCAGCAAAATGAGCGATCGCGGTCAAATCAAAGG
CTGTGTGGTTGATGGCCCGCTGGCGCTGGATATCGCGCTTAGCGAAGAAGCGGCGCATCATA
AAGGCGTGACCGCGAAGTGGCCGGTAAAGCCGATATTTCTGATGCCGAATATTGAAACC
GGCAACGTGATGTATAAAACGCTGACCTATACCAACGACAGCAAAAACGGCGGCATTCTGGT
GGGTACCAGCGCGCGGTGGTGTGACCTCGCGCGCCGACAGCCATGAAACCAAAATGAACA
GCATTGCGCTGGCGGCGCTGGTGGCCGGTAATAAATAA

FIGURE 23 (cont'd)

A.

ATGTATCGTTTACTGATTATCAATCCTGGCTCGACCTCAACTAAAATTGGTATTTATGACGATGA
AAAAGAGATATTTGAGAAGACTTTACGTCATTCAGCTGAAGAGATAGAAAAATATAACACTATAT
TTGATCAATTTTCAGTTTCAGAAAGAATGTAATTCTCGATGCGTTAAAAGAAGCAAACATTGAAGTA
AGTTCTTTAAATGCTGTAGTTGGACGCGGCGGACTGTTAAAGCCAATAGTAAGTGGAACCTTATGC
AGTAAATCAAAAAATGCTTGAAGACCTTAAAGTAGGCGTTCAAGGTCAGCATGCGTCAAATCTTG
GTGGAATTATTGCAAATGAAATAGCAAAAGAAATAAATGTTCCAGCATAACATCGTTGATCCAGTT
GTTGTGGATGAGCTTGATGAAGTTTACGTTATATCAGGAATGGCTGACATTCCACGTAAAAGTAT
ATTCCATGCATTAAATCAAAAAGCAGTTGCTAGACGCTATGCAAAAGAAGTTGGAAAAAATACG
AAGATCTTAATTTAATCGTGGTCCACATGGGTGGCGGTACTTCAGTAGGTACTCATAAAGATGGT
AGAGTAATTGAAGTTAATAATACACTTGATGGAGAAGGTCCATTCTCACCAGAAAGAAGTGCTGG
CGTTCCAATAGGCGATCTTGTTACGTTTGTGCTTCAGCAACAAATATACTTATGAAGAAGTAATGA
AAAAGATAAACGGCAAAGGCGGCGTTGTTAGTTACTTAAATACTATCGATTTTAAAGGCTGTAGTT
GATAAAGCTCTTGAAGGCGATAAGAAATGTGCACCTTATATATGAAGCTTTCACATTCCAGGTAGC
AAAAGAGATAGGAAAATGTTCAACCGTTTAAAAGGAAATGTAGATGCAATAATCTTAACAGGCG
GAATTGCGTACAACGAGCATGTATGTAATGCCATAGAGGATAGAGTAAATTCATTGCACCTGTA
GTTTCGTTATGCTGGAGAAGATGAACTTCTTGCACTTGCAAGAAGGTGGACTGCGCGTTTTACGCGG
AGAAGAAAAAGCTAAGGAATACAAATAA

B.

ATGTATCGTTTACTGATTATCAATCCTGGCTCGACCTCAACTAAAATTGGTATTTATGACGATGA
AAAAGAGATATTTGAGAAGACGTTACGTCATTCAGCTGAAGAGATTGAAAAATATAACACTATAT
TTGATCAATTTTCAGTTTCGCAAGAATGTGATTCTCGATGCGTTAAAAGAAGCAAACATTGAAGTC
AGTTCTTTAAATGCTGTAGTTGGACGCGGCGGACTGTTAAAGCCAATTGTCAGTGGAACCTTATGC
AGTAAATCAAAAAATGCTTGAAGACCTTAAAGTGGGCGTTCAAGGTCAGCATGCCAGCAATCTTG
GTGGCATTATTGCCAATGAAATCGCAAAAGAAATCAATGTTCCAGCATAACATCGTTGATCCGTT
GTTGTGGATGAGCTTGATGAAGTTAGCCGTATAAGCGGAATGGCTGACATTCCACGTAAAAGTAT
ATTCCATGCATTAAATCAAAAAGCAGTTGCTCGTCGCTATGCAAAAGAAGTTGGTAAAAAATACG
AAGATCTTAATTTAATCGTGGTCCACATGGGTGGCGGTACTTCAGTAGGTACTCATAAAGATGGT
CGCGTGATTGAAGTTAATAATACACTTGATGGCGAAGGTCCATTCTCACCAGAACGTAGTGGTGG
CGTTCCAATTGGCGATCTGGTACGTTTGTGCTTCAGCAACAAATATACTTATGAAGAAGTGATGA
AAAAGATAAACGGCAAAGGCGGCGTTGTTAGTTACCTGAATACTATCGATTTTAAAGGCTGTAGTT
GATAAAGCGCTTGAAGGCGATAAGAAATGTGCACTGATTTATGAAGCTTTCACCTTCCAGGTAGC
AAAAGAGATTGGTAAATGTTCAACCGTTTAAAAGGAAATGTTGATGCCATTATCTTAACAGGCG
GCATTGCTTACAACGAGCATGTATGTAATGCCATTGAGGATCGCGTAAAAATTCATTGCACCTGTA
GTTTCGTTATGCTGGCGAAGATGAACTGCTGGCACTGGCAGAAGGTGGACTGCGCGTTTTACGCGG
CGAAGAAAAAGCGAAGGAATACAAATAA

FIG. 24

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C.

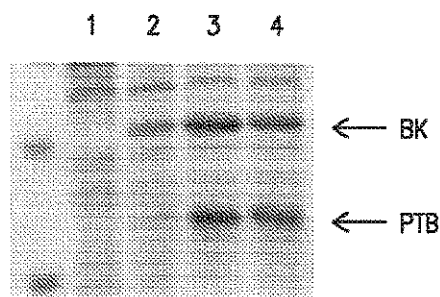
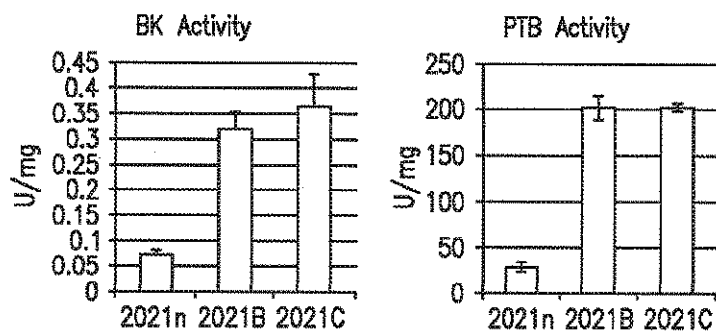
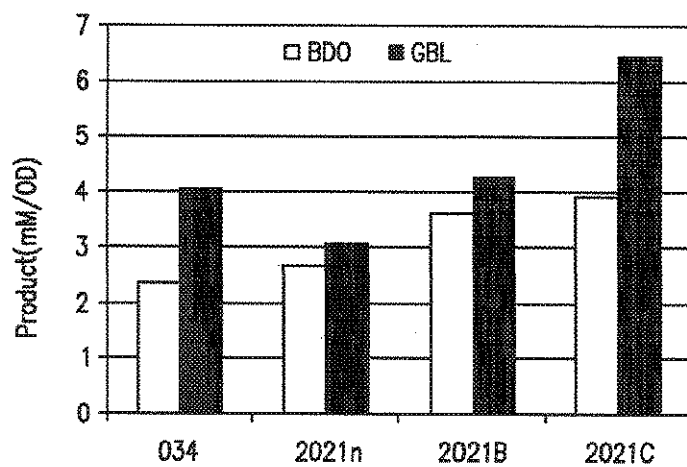
ATGTATCGTCTGCTGATTATCAATCCTGGCTCGACCTCAACTAAAATTGGTATTTATGACGATGA
AAAAGAGATATTTGAGAAAACGTTACGTCATAGCGCTGAAGAGATTGAAAAATATAACACTATTT
TTGATCAATTTTCAGTTCCGCAAGAATGTGATTCTCGATGCGCTGAAAGAAGCAAACATTGAAGTC
AGTTGCTGAATGCGGTAGTTGGTTCGCGGCGGTCTGCTGAAGCCAATTGTCAGCGGCACTTATGC
GGTAAATCAAAAAATGCTGGAAGACCTGAAAGTGGGCGTTTCAGGGGCAGCATGCCAGCAATCTTG
GTGGCATTATTGCCAATGAAATCGCCAAAGAAATCAATGTTCCGGCATAACATCGTTGATCCGGTT
GTTGTGGATGAGCTGGATGAAGTTAGCCGTATCAGCGGAATGGCTGACATTCCACGTAAAAAGTAT
TTTCCATGCACTGAATCAAAAAGCGGTTGCGCGTCTGCTATGCAAAAGAAGTTGGTAAAAAATACG
AAGATCTTAATCTGATCGTGGTGCATATGGGTGGCGGTACTAGCGTCTGCTACTCATAAAGATGGT
CGCGTGATTGAAGTTAATAATACACTTGATGGCGAAGGTCCATTCTCACCAGAACGTAGCGGTGG
CGTTCCAATTGGCGATCTGGTACGTTTGTGCTTCAGCAACAAATATACCTATGAAGAAGTGATGA
AAAAGATAAACGGCAAAGGCGGCGTTGTTAGTTACCTGAATACTATCGATTTTAAAGGCGGTAGTT
GATAAAGCGCTGGAAGGCGATAAGAAATGTGCACTGATTATGAAGCGTTACCTTCCAGGTGGC
AAAAGAGATTGGTAAATGTTCAACCGTTCTGAAAGGCAATGTTGATGCCATTATCCTGACCGGCG
GCATTGCTTACAACGAGCATGTTTGTAATGCCATTGAGGATCGCGTAAAAATTCATTGCACCTGTG
GTTGCTTATGGTGGCGAAGATGAACTGCTGGCACTGGCAGAAGGTGGTCTGCGCGTTTTACGCGG
CGAAGAAAAAGCGAAAGAATACAAATAA

D.

ATGTATCGTCTGCTGATTATCAACCCGGGCAGCACCTCAACCAAAATTGGTATTTACGACGATGA
AAAAGAGATTTTTGAAAAAACGCTGCGTCACAGCGCAGAAGAGATTGAAAAATACAACACCATTT
TCGATCAGTTCCAGTTCCGCAAAAACGTGATTCTCGATGCGCTGAAAGAAGCCAATATTGAAGTC
TCCTCGCTGAATGCGGTGGTTCGGTTCGCGGCGGTCTGCTGAAACCGATTGTCAGCGGCACTTATGC
GGTTAATCAGAAAATGCTGGAAGATCTGAAAGTGGGCGTGCAGGGGCAGCATGCCAGCAATCTCG
GCGGCATTATCGCCAATGAAATCGCCAAAGAGATCAACGTGCCGGCTTATATCGTTCGATCCGGTG
GTGGTTGATGAACTGGATGAAGTCAGCCGTATCAGCGGCATGGCGGATATTCCGCGTAAAAAGCAT
TTTCCATGCGCTGAATCAGAAAGCGGTTGCGCGTCTGCTATGCCAAAGAAGTGGGTAAAAAATATG
AAGATCTCAATCTGATTGTGGTGCATATGGGCGGCGGCACCAGCGTCCGTACGCATAAAGATGGT
CGCGTGATTGAAGTGAATAACACGCTGGATGGCGAAGGGCCGTTCTCGCCGGAACGTAGCGGCGG
CGTGCCGATTGGCGATCTGGTGCCTCTGTGTTTTAGCAATAAATACACCTACGAAGAAGTGATGA
AAAAAATCAACGGCAAAGGCGGCGTGGTTAGCTATCTGAATACCATCGATTTTAAAGCGGTGGTT
GATAAAGCGCTGGAAGGCGATAAAAAATGCGCGCTGATTATGAAGCGTTACCTTCCAGGTGGC
GAAAGAGATTGGTAAATGTTCAACCGTGCTGAAAGGCAACGTTGATGCCATTATCTGACCGGCG
GCATTGCTTATAACGAACATGTTTGTAATGCCATTGAAGATCGCGTGAAATTTATTGCGCCGGTG
GTGCGTTACGGCGGCGAAGATGAACTGCTGGCGCTGGCGGAAGGCGGTCTGCGCGTGCTGCGCGG
CGAAGAAAAAGCGAAAGAGTACAAATAA

FIG. 24 (cont'd)

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**FIG. 25A****FIG. 25B****FIG. 26**

A.

ATGAATAAAGACACACTAATACCTACAACATAAGATTTAAAAGTAAAAACAAATGGTGAAAACAT
TAATTTAAAGAACTACAAGGATAATTCTTCATGTTTCGGAGTATTCGAAAAATGTTGAAAATGCTA
TAAGCAGCGCTGTACACGCACAAAAGATATTATCCCTTCATTATACAAAAGAGCAAAGAGAAAAA
ATCATAACTGAGATAAGAAAGGCCGCATTACAAAATAAAGAGGTCTTGGCTACAATGATTCTAGA
AGAAACACATATGGGAAGATATGAGGATAAAATATTAAAACATGAATTGGTAGCTAAATATACTC
CTGGTACAGAAGATTTAACTACTACTGCTTGGTCAGGTGATAATGGTCTTACAGTTGTAGAAATG
TCTCCATATGGTGTTATAGGTGCAATAACTCCTTCTACGAATCCAACCTGAACTGTAATATGTAA
TAGCATAGGCATGATAGCTGCTGGAAATGCTGTAGTATTTAACGGACACCCATGCGCTAAAAAAT
GTGTTGCCTTTGCTGTTGAAATGATAAATAAGGCAATTATTTTCATGTGGCGGTCTCTGAAAATCTA
GTAACAACATAAAAAATCCAACATATGGAGTCTCTAGATGCAATTATTAAGCATCCTTCAATAAA
ACTTCTTTGCGGAACCTGGGGGTCCAGGAATGGTAAAAACCTCTTAAATTCTGGTAAGAAAGCTA
TAGGTGCTGGTGCTGGAAATCCACCAGTTATTTGTAGATGATACTGCTGATATAGAAAAGGCTGGT
AGGAGCATCATTGAAGGCTGTTCTTTTGATAATAATTTACCTTGTATTGCAGAAAAAGAAGTATT
TGTTTTTGTAGAATGTTGCAGATGATTTAATATCTAACATGCTAAAAAATAATGCTGTAATTATAA
ATGAAGATCAAGTATCAAAATTAATAGATTTAGTATTACAAAAAATAATGAACTCAAGAATAC
TTTATAAACAAAAATGGCTAGGAAAAGATGCAAATTTATTCTTAGATGAAATAGATGTTGAGTC
TCCTTCAAATGTTAAATGCATAATCTGCGAAGTAAATGCAAATCATCCATTTGTTATGACAGAAC
TCATGATGCCAATATTGCCAATTGTAAGAGTTAAAGATATAGATGAAGCTATTAAATATGCCAAG
ATAGCAGAACAAAAATAGAAAACATAGTGCCCTATATTTATTCTAAAAATATAGACAACCTAAATAG
ATTTGAAAGAGAAATAGATACTACTATTTTTGTAAAGAATGCTAAATCTTTTGCTGGTGTGTT
ATGAAGCAGAAGGATTTACAACCTTTCACTATTGCTGGATCTACTGGTGAGGGAATAACCTCTGCA
AGGAATTTTACAAGACAAAGAAGATGTGTACTTGCCCGCTAA

B.

MNKDTLIPPTKDLKVKTNGENINLKKNYKDNSSCFGVFENVENAIISSAVHAQKILSLHYTKEQREK
IITEIRKAALQNKVLA TMILEETHMGRYEDKILKHELVAKYTPGTEDLT TTAWSGDNGLTVVEM
SPYGVIGAITPSTNPTETVICNSIGMIAAGNAVVFNGHPCAKKCVAFVAVEMINKAIIISCGGPENL
VTTIKNPTMESLD AIIKHPSIKLLCGTGPGMVKTLLNSGKKAIGAGAGNPPVIVDDTADIEKAG
RSIIIEGCSFDNNLPCIAEKEVFVFENVADDLISNMLKNNAVIINEDQVSKLIDLVLQKNNETQEY
FINKKWWVGKDAKLFLDEIDVESPSNVKCIICEVNANHPFVMTLMMPILPIVRVKDIDEAIIKYAK
IAEQNRKHSAYIIYSKNIDNLRFREREIDTTIFVKNAKSFAGVGYEABGFTTFTIAGSTGEGITSA
RNFTRQRRCVLAG

FIG. 27

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A.

ATGAATAAAGACACACTAATACCTACAACCTAAAGATTTAAAAGTAAAAACAAATGGTGAAAACAT
TAATTTAAAGAACTACAAGGATAATTCTTCATGTTTCGGCGTATTTCGAAAATGTTGAAAATGCTA
TAAGCAGCGCTGTACACGCACAAAAGATATTATCCCTTCATTATACAAAAGAGCAACGTGAAAAA
ATCATAACTGAGATAAGAAAAGGCCGCATTACAAAATAAAGAGGTCTTGGCTACAATGATTCTGGA
AGAAACACATATGGGACGTTATGAGGATAAAAATATTA AACATGAATTGGTAGCTAAATATACTC
CTGGTACAGAAGATTTAACTACTACTGCCTGGTCAGGTGATAATGGTCTGACAGTTGTAGAAATG
TCTCCATATGGTGTATTGTTGCAATAACTCCTTCTACGAATCCAACCTGAACTGTAATATGTAA
TAGCATAGGCATGATTGCTGCTGGAAATGCTGTAGTATTTAACGGACACCCATGCGCTAAAAAAT
GTGTTGCCTTTGCTGTTGAAATGATAAATAAGGCAATTATTTTCATGTGGCGGTCTGAAAATCTG
GTAACAACTATAAAAAATCCAACCATGGAGTCTCTGGATGCAATTATTAAGCATCCTTCAATAAA
ACTTCTTTGCGGAACTGGGGGTCCAGGAATGGTAAAAACCTGTTAAATTCTGGTAAGAAAGCTA
TAGGTGCTGGTGCTGGAAATCCACCAGTTATTGTGCGATGATACTGCTGATATAGAAAAGGCTGGT
CGTAGCATCATTGAAGGCTGTTCTTTTGATAATAATTTACCTTGTATTGCAGAAAAAGAAGTATT
TGTTTTTGAGAATGTTGCAGATGATTTAATATCTAACATGCTAAAAAATAATGCTGTAATTATAA
ATGAAGATCAAGTATCAAAAATTAATCGATTTAGTATTACAAAAAATAATGAACTCAAGAATAC
TTTATAAACAAAAATGGGTAGGAAAAGATGCAAAATTATTCCTCGATGAAATAGATGTTGAGTC
TCCTTCAAATGTTAAATGCATAATCTGCGAAGTAAATGCAAATCATCCATTTGTTATGACAGAAC
TGATGATGCCAATATTGCCAATTGTACGCGTTAAAGATATCGATGAAGCTATTAAATATGCAAAG
ATAGCAGAACAAAAATAGAAAACATAGTGCCTATATTTATTCTAAAAATATCGACAACCTGAATCG
CTTTGAACGTGAAATAGATACTACTATTTTGTAAAGAATGCTAAATCTTTTGCTGGTGTGGTT
ATGAAGCAGAAGGATTTACAACCTTTCACTATTGCTGGATCTACTGGTGAGGGAATAACCTCTGCA
CGTAATTTTACACGCCAACGTGCTGTGTA CTTGCCGGCTAA

B.

ATGAATAAAGACACACTGATCCCTACAACCTAAAGATTTAAAAGTAAAAACAAATGGTGAAAACAT
TAATTTAAAGAACTACAAGGATAATAGCAGTTGTTTCGGCGTATTTCGAAAATGTTGAAAATGCTA
TCAGCAGCGCTGTACACGCACAAAAGATATTATCGCTGCATTATACAAAAGAGCAACGTGAAAAA
ATCATCACTGAGATACGTAAGGCCGCATTACAAAATAAAGAGGTGCTGGCTACAATGATTCTGGA
AGAAACACATATGGGACGTTATGAGGATAAAAATATTA AACATGAACTGGTAGCTAAATATACTC
CTGGTACAGAAGATTTAACTACTACTGCCTGGAGCGGTGATAATGGTCTGACAGTTGTAGAAATG
TCTCCATATGGTGTATTGTTGCAATAACTCCTTCTACCAATCCAACCTGAACTGTAATTTGTAA
TAGCATTGGCATGATTGCTGCTGGAAATGCTGTAGTATTTAACGGACACCCATGCGCTAAAAAAT
GTGTTGCCTTTGCTGTTGAAATGATCAATAAGGCAATTATTAGCTGTGGCGGTCCGGAAAATCTG
GTAACAACTATAAAAAATCCAACCATGGAGTCTCTGGATGCCATTATTAAGCATCCTTCAATAAA
ACTGCTTTGCGGAACTGGCGGTCCAGGAATGGTAAAAACCTGTTAAATTCTGGTAAGAAAGCTA
TTGGTGCTGGTGCTGGAAATCCACCAGTTATTGTGCGATGATACTGCTGATATTGAAAAGGCTGGT
CGTAGCATCATTGAAGGCTGTTCTTTTGATAATAATTTACCTTGTATTGCAGAAAAAGAAGTATT
TGTTTTTGAGAATGTTGCAGATGATTTAATATCTAACATGCTGAAAAAATAATGCTGTAATTATCA
ATGAAGATCAGGTATCAAAAATTAATCGATTTAGTATTACAAAAAATAATGAACTCAAGAATAC
TTTATCAACAAAAATGGGTAGGTAAGATGCAAAATTATTCCTCGATGAAATCGATGTTGAGTC
TCCTTCAAATGTTAAATGCATTATCTGCGAAGTGAATGCCAATCATCC

FIG. 28

ATTTGTTATGACAGAACTGATGATGCCAATATTGCCAATTGTGCGCGTTAAAGATATCGATGAAG
CTATTAAATATGCAAAGATTGCAGAACAAAATAGAAAACATAGTGCCTATATTTATAGCAAAAAT
ATCGACAACCTGAATCGCTTTGAACGTGAAATCGATACTACTATTTTTGTAAAGAATGCTAAATC
TTTTGCTGGTGTGGTTATGAAGCAGAAGGATTTACCACTTTCATTATTGCTGGATCTACTGGTG
AGGGCATAACCTCTGCACGTAATTTTACCCGCCAACGTGCTGTGTACTGGCCGGCTAA

C.

ATGAATAAAGACACGCTGATCCCGACAACCTAAAGATCTGAAAGTAAAAACCAATGGTGAAAACAT
TAATCTGAAGAACTACAAAGATAATAGCAGTTGTTTCGGCGTATTCGAAAATGTTGAAAATGCTA
TCAGCAGCGCGGTACACGCACAAAAGATACTCTCGCTGCATTATACCAAAGAGCAACGTGAAAAA
ATCATCACTGAGATCCGTAAGGCCGCATTACAAAATAAAGAGGTGCTGGCAACAATGATTCTGGA
AGAAACACATATGGGACGTTATGAGGATAAAAATACTGAAACATGAACTGGTGGCGAAATATACGC
CTGGTACTGAAGATTTAACCACCACTGCCTGGAGCGGTGATAATGGTCTGACCGTTGTGGAATG
TCGCCTTATGGTGTATTGGTGCATTAACGCCTTCAACCAATCCAACCTGAAACGGTAATTTGTAA
TAGCATTGGCATGATTGCTGCTGGAAATGCGGTAGTATTTAACGGTCAACCCCTGCGCTAAAAAAT
GTGTTGCCTTTGCTGTTGAAATGATCAATAAAGCGATTATTAGCTGTGGCGGTCCGGAAAATCTG
GTAACCACTATAAAAAATCCAACCATGGAGTCGCTGGATGCCATTATTAAGCATCCTTCAATCAA
ACTGCTGTGCGGCACTGGCGGTCCAGGAATGGTGAAAACCCCTGCTGAATAGCGGTAAAGAAAGCGA
TTGGTGTCTGGTGTGGAATCCACCAGTTATTGTGCTGATGATACTGCTGATATTGAAAAGCGGGT
CGTAGCATCATTGAAGGCTGTTCTTTTGATAATAATTTACCTTGTATTGCAGAAAAAGAAGTATT
TGTTTTTTGAGAATGTTGCCGATGATCTGATCTCTAACATGCTGAAAAATAATGCCGTGATTATCA
ATGAAGATCAGGTTAGCAAACTGATCGATCTGGTATTACAAAAAATAATGAACTCAAGAATAC
TTTATCAACAAAAAATGGGTAGGTAAAGATGCAAACTGTTCTCTGATGAAATCGATGTTGAGTC
GCCTTCAAATGTTAAATGCATTATCTGCGAAGTGAATGCCAATCATCCATTGTGATGACCGAAC
TGATGATGCCAATTTTGCCGATTGTGCGCGTTAAAGATATCGATGAAGCGATTAAATATGCAAG
ATTGCAGAACAAAATCGTAAACATAGTGCCTATATTTATAGCAAAAATATCGACAACCTGAATCG
CTTTGAACGTGAAATCGATAACCACTATTTTTGTGAAGAATGCTAAATCTTTTGTGCTGGTGTGGTT
ATGAAGCAGAAGGTTTTTACCACTTTCATTATTGCTGGAAGCACCGGTGAAGGCATTACCTCTGCA
CGTAATTTTACCCGCCAACGTGCTGTGTACTGGCCGGCTAA

D.

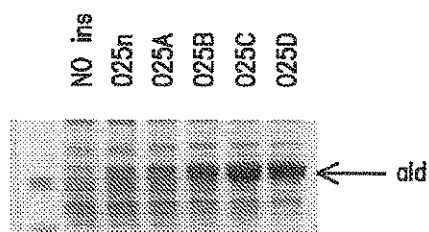
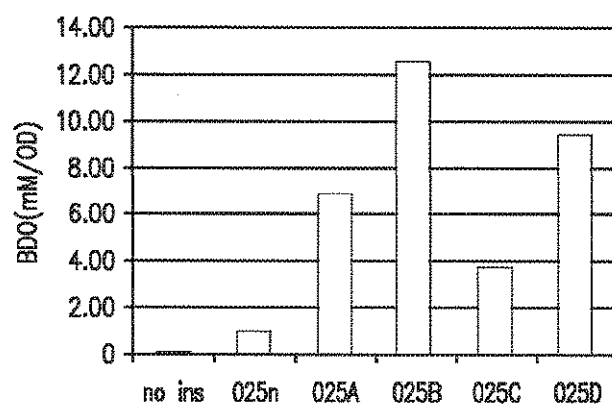
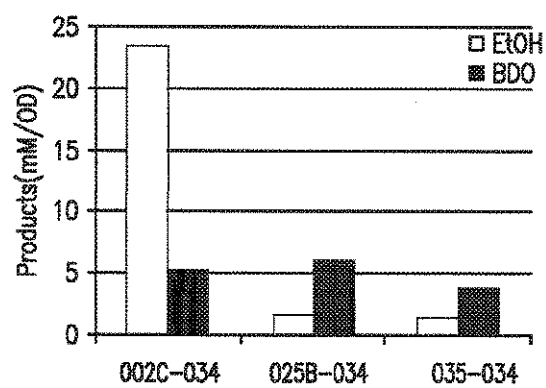
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CAACCTGAAAAACTATAAAGATAACAGCAGTTGCTTTGGCGTGTTTGAAAACGTTGAAAACGCCA
TCTCCAGCGCGGTGCATGCGCAAAAAATTCTCTCGCTGCATTACACCAAAGAGCAGCGTGAAAAA
ATTATCACCGAAATCCGTAAAGCGGCGCTGCAAAACAAAGAAGTCTGGCAACCATGATCTCTGGA
AGAAACGCATATGGGGCGTTATGAAGATAAAATTTCTGAAACATGAACTGGTGGCGAAATACACGC
CGGGCACTGAAGATCTGACCACCACCGCCTGGAGCGGCGATAACGGCCTGACCGTGGTGGAGATG
TCGCCCTTATGGCGTGATTGGCGCGGATTACGCCCTCAACCAACCCGACCGAAACGGTGATTTGTAA
CAGCATTGGCATGATTGCCGCGGGTAATGCGGTGGTGTTTAACGGTCATCCCTGCGCGAAAAAAT
GTGTGGCGTTTGCCGTTGAGATGATCAACAAAGCGATTATCAGCTGCGGCGGCCCGGAAAATCTG
GTGACCATCATCAAAAATCCGACCATGGAATCGCTGGATGCCATTATCAACATCCTTCCATCAA
ACTGCTGTGCGGCACCGCGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGG
TTGGCGCGGGCGCGGGTAACCCGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGGCGG

FIG. 28 (cont'd)

GAAAAAGCGGGGCGTAGCATTATTGAAGGCTGTTCTTTTGATAACAACCTGCCCTGCATTGCCGA
AAAAGAAGTGTTTTGTCTTTGAAAACGTCGCCGATGATCTGATCAGCAATATGCTGAAAAACAACG
CGGTGATTATCAATGAAGATCAGGTTAGCAAACGATCGATCTGGTGCTGCAAAAAACAACGAA
ACGCAGGAATATTTTATCAACAAAAAATGGGTTGGTAAAGATGCCAAACTGTTTCTCGATGAAAT
CGATGTTGAATCGCCGTCTAACGTGAAATGTATTATCTGCGAAGTGAACGCCAACCATCCGTTTG
TGATGACCGAACTGATGATGCCGATTCTGCCGATTGTGCGCGTGAAAGATATCGATGAAGCGATT
AAATATGCCAAAATTGCCGAACAAAACCGTAAACACAGCGCCTATATTTACAGCAAAAATATCGA
TAACCTGAACCGCTTTGAACGTGAAATCGATACCACCATTTTTGTGAAAAATGCCAAAAGTTTTG
CCGGCGTTGGTTATGAAGCGGAAGGTTTTACCACCTTTACCATTTGCCGGTAGCACCGGCGAAGGC
ATTACCAGCGCCCGTAATTTTACCCGCCAGCGTCGCTGCGTGCTGGCGGGCTAA

FIG. 28 (cont'd)

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**FIG. 29****FIG. 30A****FIG. 30B**

A.

ATGAAAGCTGCAGTAGTAGAGCAATTTAAGGAACCATTAAAAATTAAAGAAGTGGAAAAGCCATC
TATTTTCATATGGCGAAGTATTAGTCCGCATTAAAGCATGCGGTGTATGCCATACGGACTTGCACG
CCGCTCATGGCGATTGGCCAGTAAACCAAACCTTCTTTAATCCCTGGCCATGAAGGAGTCGGA
ATTGTTGAAGAAGTCGGTCCGGGGGTAACCCATTTAAAAGTGGGAGACCGCGTTGGAATTCCTTG
GTTATATTCTGCGTGCGGCCATTGCGAATATTGTTTAAAGCGGACAAGAAGCATTATGTGAACATC
AACAAAACGCCGGCTACTCAGTCGACGGGGGTTATGCAGAATATTGCAGAGCTGCGCCAGATTAT
GTGGTGAAAATTCCTGACAACTTATCGTTTGAAGAAGCTGCTCCTATTTTCTGCGCCGGAGTTAC
TACTTATAAAGCGTTAAAAGTCACAGGTACAAAACCGGGAGAATGGGTAGCGATCTATGGCATCG
GCGGCCCTTGGACATGTTGCCGTCCAGTATGCGAAAGCGATGGGGCTTCATGTTGTTGCAGTGGAT
ATCGGCGATGAGAACTGGAACCTTGCAAAAGAGCTTGCGCGCCGATCTTGTTGTAAATCCTGCAAA
AGAAAATGCGGCCCAATTTATGAAAGAGAAAGTCGGCGGAGTACACGCGGCTGTTGTGACAGCTG
TATCTAAACCTGCTTTTCAATCTGCGTACAATTCTATCCGCAGAGGCGGCACGTGCGTGCTTGTC
GGATTACCGCCGGAAGAAATGCCTATTCCAATCTTTGATACGGTATTAAACGGAATTTAAATTTAT
CGGTTCCATTGTGCGCACGCGGAAAGACTTGCAAGAAGCGCTTCAGTTCGCTGCAGAAGGTAAAG
TAAAAACCATTATTGAAGTGCAACCTCTTGAAAAAATTAACGAAGTATTTGACAGAATGCTAAAA
GGAGAAATTAACGGACGGGTTGTTTAAAGTTAGAAAAATAATAATTAA

B.

MKAADVVEQFKEPLKIKEVEKPSISYGEVLVRIKACGVCHTDLHAAHGDWPVKPKLFLIPGHEGVG
IVEEVGPGVTHLKVGDVRGIPWLYSACGHCEYCLSGQEALCEHQONAGYSVDGGYAEYCRAAPDY
VVKIPDNLSFEEAAPIFCAGVTTYKALKVTGTPGEWVAIYGIGGLGHVAVQYAKAMGLHVAVD
IGDEKLELAKELGADLVVNPAKENAAQFMKEKVGCVHAAVVTAVSKPAFQSAYNSIRRGGTCVLV
GLPPEEMPIPIFDTVLNGIKIIGSIVGTRKDLQEALQFAAEGKVKTIIIEVQPLEKINEVFDRMLK
GEINGRVVLTLENNN

FIG. 31

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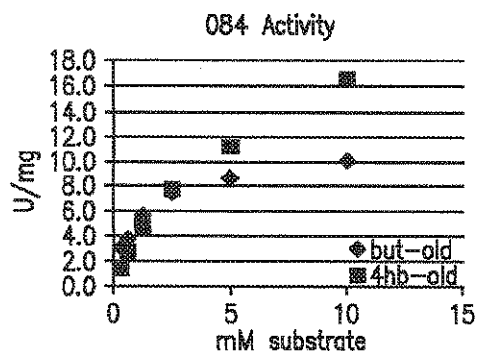
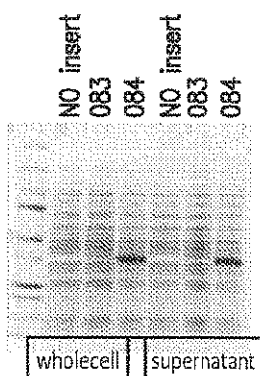


FIG. 32A

FIG. 32B

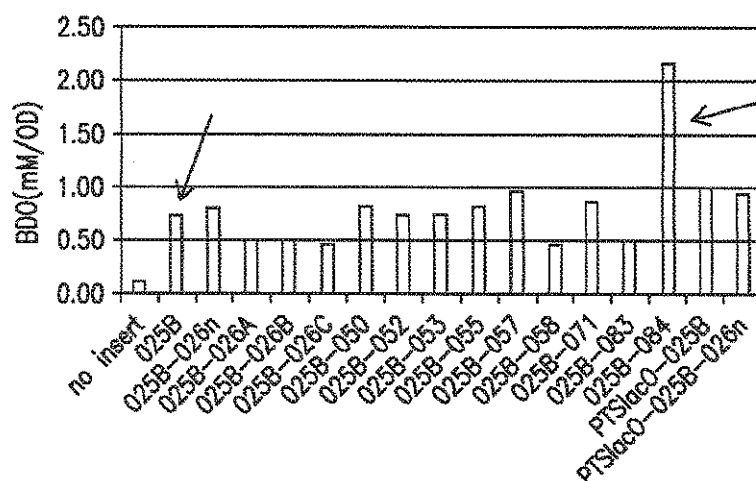


FIG. 33

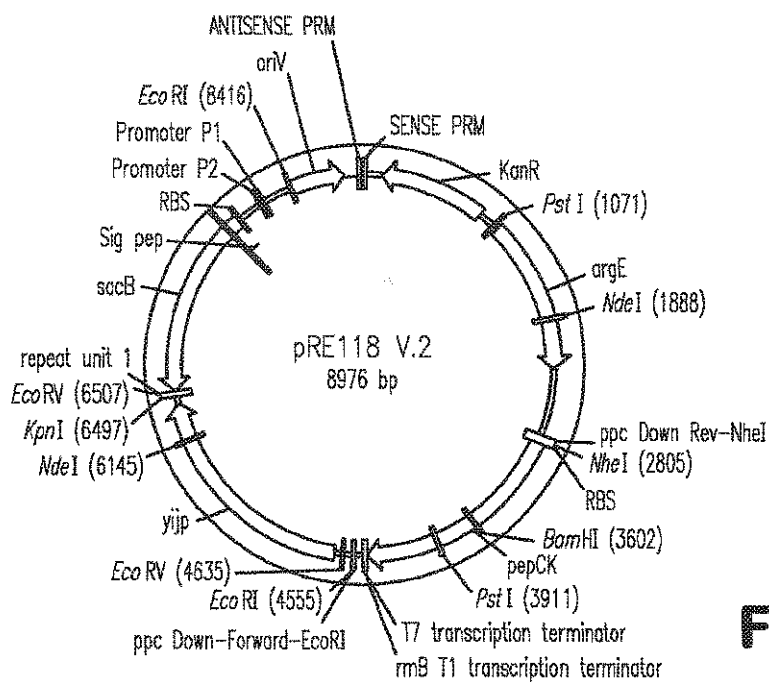


FIG. 34

A.

aTGGCTATCGAAATCAAAGTACCGGACATCGGGGCTGATGAAGTTGAAATCACCGAGATCCTGGTC
AAAGTGGGCGACAAAGTTGAAGCCGAACAGTCGCTGATCACCGTAGAAGGCGACAAAGCCTCTATG
GAAGTCCGTCTCCGCAGGCGGGTATCGTTAAAGAGATCAAAGTCTCTGTTGGCGATAAAACCCAG
ACCGGCGCACTGATTATGATTTTCGATTCGCGCCGACGGTGCAGCAGACGCTGCACCTGCTCAGGCAG
AAGAGAAGAAAGAAGCAGCTCCGGCAGCAGCACCAGCGGGTGCAGGCGGCAAAAGACGTTAACGTT
CCGGATATCGGCAGCGACGAAGTTGAAGTGACCGAAATCCTGGTGAAAGTTGGCGATAAAGTTGAA
GCTGAACAGTCGCTGATCACCGTAGAAGGCGACAAGGCTTCTATGGAAGTTCCGGCTCCGTTTGCTG
GCACCGTGAAGAGATCAAAGTGAACGTGGGTGACAAAGTGTCTACCGGCTCGCTGATTATGGTCT
TCGAAGTCGCGGTGAAGCAGGCGCGGCAGCTCCGGCCGCTAAACAGGAAGCAGCTCCGGCAGCG
GCCCCGTCACCAAGCGGCTGGCGTGAAAGAAGTTAACGTTCCGGATATCGGCGGTGACGAAGTTGAA
GTGACTGAAGTGATGGTGAAAGTGGGCGACAAAGTTGCCGCTGAACAGTCACTGATCACCGTAGAA
GGCGACAAAGCTTCTATGGAAGTTCCGGCGCCGTTTGACAGGCGTCTGAAGGAACTGAAAGTCAAC
GTTGGCGATAAAGTGAAACTGGCTCGCTGATTATGATCTTCGAAGTTGAAGGCGCAGCGCCTGCG
GCAGCTCCTGCGAAACAGGAAGCGGCAGCGCCGGCACCGGCAGCAAAAGCTGAAGCCCCGGCAGC
AGCACCACTGCGAAAGCGGAAGGCAAATCTGAATTGCTGAAAACGACGCTTATGTTACGCGAC
TCCGCTGATCCGCCGTCTGGCACGCGAGTTTGGTGTTAACCTTGCGAAAGTGAAGGCGACTGGCCG
TAAAGGTCGTATCCTGCGCGAAGACGTTCAAGCTTACGTGAAAGAAGCTATCAAACGTGCAGAAAGC
AGCTCCGGCAGCGACTGGCGGTGGTATCCCTGGCATGCTGCCGTGGCCGAAGGTGGACTTCAGCAA
GTTTGGTGAAATCGAAGAAGTGGAAGTGGGCCGCATCCAGAAAATCTCTGGTGCGAACCTGAGCCG
TAACTGGGTAATGATCCCGCATGTTACTCACTTCGACAAAACCGATATCACCGAGTTGGAAGCGTTC
CGTAAACAGCAGAACGAAGAAGCGGCGAAACGTAAGCTGGATGTGAAGATCACCCCGGTTGCTTC
ATCATGAAAGCCGTTGCTGCAGCTCTTGAGCAGATGCCTCGCTTCAATAGTTGCTGTCGGAAGACG
GTCAGCGTCTGACCTGAAGAAATACATCAACATCGGTGTGGCGGTGGATAACCCGAACGGTCTGG
TTGTTCCGGTATTCAAAGACGTCAACAAGAAAGGCATCATCGAGCTGTCTCGCGAGCTGATGACTAT
TTCTAAGAAAGCGCGTGACGGTAAGCTGACTGCGGGCGAAATGCAGGGCGGTTGCTTCACCATCTC
CAGCATCGGCGGCTGGGTACTACCACTTCGCGCCGATTGTGAACGCGCCGGAAGTGGCTATCCTC
GGCGTTTCCAAGTCCGCGATGGAGCCGGTGTGGAATGGTAAAGAGTTCGTGCCGCGTCTGATGCTG
CCGATTTCTCTCTCTCGACCACCGCGTGATCGACGGTGTGATGGTGCCGTTTCATTACCATCATT
AACAACACGCTGTCTGACATTGCGCGTCTGGTGATGTAAGTAAAGAGCCGCGCCCAACGGCCGGCT
TTTTCTGGTAATCTCATGAATGTATTGAGGTTATTAGCGAATAGACAAATCGGTTGCCGTTTGTGT
TTAAAAATTGTTAACAATTTGTAAAATACCGACGGATAGAACGACCCGGTGGTGGTTAGGGTATTA
CTTCACATACCCTATGGATTTCTGGGTGCAGCAAGGTAGCAAGCGCCAGAATCCCCAGGAGCTTACA
TAAGTAAGTGACTGGGGTGAGGGCGTGAAGCTAACGCCGCTGCGGCCTGAAAGACGACGGGTATG
ACCGCCGGAGATAAATATATAGAGGTCATGATGAGTACTGAAATCAAACTCAGGTCTGGTACTT
GGGGCAGGCCCGCAGGTTACTCCGCTGCCTTCCGTTGCGCTGATTTAGGTCTGGAACCGTAATCG
TAGAACGTTACAACACCCTTGGCGGTGTTTGTCTGAACGTGGGTTGTATCCCTTCTAAAGCGCTGCT
GCACGTGGCAAAAGTTATCGAAGAAGCGAAAGCGCTGGCCGAACACGGCATCGTTTTCGGCGAACC
GAAAACTGACATTGACAAGATCCGCACCTGGAAAGAAAAAGTCATCACTCAGCTGACCGGTGGTCT
GGCTGGCATGGCCAAAGGTCGTAAAGTGAAGGTGGTTAACGGTCTGGGTAAATTTACCGGCGCTAA
CACCTTGGAAGTGGAAGGCGAAAACGGCAAAACCGTGATCAACTTCGACAACGCCATCATCGCGGC
GGGTTCCCGTCCGATTAGCTGCCGTTTATCCCGCATGAAGATCCGCGCGTATGGGACTCCACCGAC
GCGCTGGAAGTGAATCTGTACCGAAACGCATGCTGGTGATGGGCGGCGGTATCATCGGTCTGGAA
ATGGGTACCGTATACCATGCGCTGGGTTTCAAGATTGACGTGGTGGAATGTTTCGACCAGGTTATC
CCGGCTGCCGACAAAGACGTGGTGAAAGTCTTACCAAACGCATCAGCAAGAAATTTAACCTGATG
CTGGAAGCCAAAGTGACTGCCGTTGAAGCGAAAGAAGACGGTATTTACGTTTCCATGGAAGGTAA
AAAGCACCGGCGGAAGCGCAGCGTTACGACGCAGTGCTGGTCTGCTATCGGCCGCGTACCGAATGGT

FIGURE 35

AAAAACCTCGATGCAGGTAAAGCTGGCGTGGAAGTTGACGATCGCGGCTTCATCCGCGTTGACAAA
CAAATGCGCACCAACGTGCCGCACATCTTTGCTATCGGCGATATCGTCGGTCAGCCGATGCTGGCGC
ACAAAGGTGTCCATGAAGGCCACGTTGCCGCAGAAGTTATCTCCGGTCTGAAACACTACTTCGATCC
GAAAGTGATCCCATCCATCGCCTACACTAAACCAGAAGTGGCATGGGTCTGGTCTGACCGAGAAAGA
AGCGAAAGAGAAAGGCATCAGCTACGAAACCGCCACCTCCCGTGGGCTGCTTCCGGCCGTGCTAT
CGCTTCTGACTGCGCAGATGGTATGACCAAACCTGATCTTCGACAAAGAGACCCACCGTGTATCGGC
GGCGCGATTGTCTGGCACCAACGGCGGCGAGCTGCTGGGTGAGATCGGCCTGGCTATCGAGATGGG
CTGTGACGCTGAAGACATCGCCCTGACCATCCACGCTCACCCGACTCTGCACGAGTCCGTTGGCCTG
GCGGCGGAAGTGTTCTGAAGGCAGCATCACCGACCTGCCAAACGCCAAAGCGAAGAAAAAGTAACT
TTTTCTTTCAGGAAAAAAGCATAAGCGGCTCCGGGAGCCGCTTTTTTATGCCTGATGTTTAGAACTA
TGTCACTGTTTATAAACCGCTACACCTCATACATACTTTAAGGGCGAATTCTGCAGATATCCATCACA
CTGGCGGCCGCTCGAGCATGCATCTAGCACATCCGGCAATTAATAAAGCGGCTAACCACGCCGCTTT
TTTTACGTCTGCAATTTACCTTTCCAGTCTTCTTGCTCCACGTTTACAGAGAGACGTTTCGATACTGCTGA
CCGTTGCTCGTTATTACGCTGACAGTATGGTTACTGTCGTTTAGACGTTGTGGGCGGCTCTCCTGAA
CTTCTCCCGAAAAACCTGACGTTGTTGAGGTGATGCCGATTGAACACGCTGGCGGGCGTTATCACG
TTGCTGTTGATTCAGTGGGCGCTGCTGTACTTTTCCTT

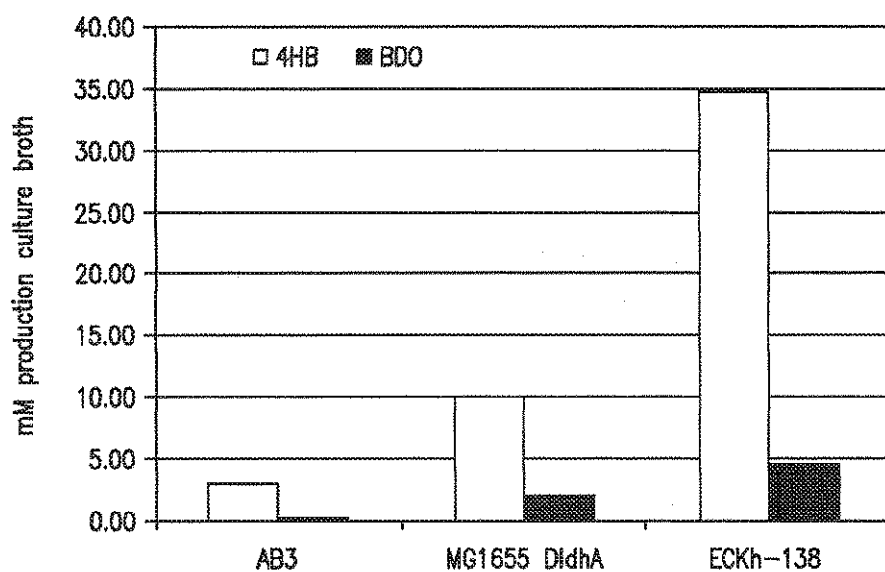
FIGURE 35 (cont'd)

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		Section 1					
	(1)	1	10	20	30	40	52
EC-IpdA	(1)	MMSTEIKTQVVVLGAGPAGYSAAFRCADLGLETVIVERYNTLGGVCLNVGCI					
KP-IpdA mutated	(1)	MMSTEIKTQVVVLGAGPAGYSAAFRCADLGLETVIVERYSTLGGVCLNVGCI					
		Section 2					
	(53)	53	60	70	80	90	104
EC-IpdA	(53)	PSKALLHVAKVIEEAKALAEHGIVFGEPKTDIDKIRTWKEKVINQLTGGLAG					
KP-IpdA mutated	(53)	PSKALLHVAKVIEEAKALAEHGIVFGEPKTDIDKIRTWKEKVITQLTGGLAG					
		Section 3					
	(105)	105	110	120	130	140	156
EC-IpdA	(105)	MAKGRKVKVVNGLGKFTGANTLEVEGENGKTVINFDNAIIAAGSRPIQLPFI					
KP-IpdA mutated	(105)	MAKGRKVKVVNGLGKFTGANTLEVEGENGKTVINFDNAIIAAGSRPIQLPFI					
		Section 4					
	(157)	157	170	180	190		208
EC-IpdA	(157)	PHEDPRIWDSTDALELKEVPERLLVMGGGIIGLEMGTVYHALGSQIDVVEMF					
KP-IpdA mutated	(157)	PHEDPRVWDSTDALELKSVPKRLVMGGGIIGLEMGTVYHALGSEIDVVEMF					
		Section 5					
	(209)	209	220	230	240	250	260
EC-IpdA	(209)	DQVIPAADKDIVKVFTKRISKKNLMLLETKVTAVEAKEDGIYVTMEGKKAPA					
KP-IpdA mutated	(209)	DQVIPAADKDVKVFTKRISKKNLMLLEAKVTAVEAKEDGIYVSMEGKKAPA					
		Section 6					
	(261)	261	270	280	290	300	312
EC-IpdA	(261)	EPQRYDAVLVAIGRVPNGKNLDAGKAGVEVDDRGFIRVDKQLRTNVPHIFAI					
KP-IpdA mutated	(261)	EAQRYDAVLVAIGRVPNGKNLDAGKAGVEVDDRGFIRVDKQMRNVPHIFAI					
		Section 7					
	(313)	313	320	330	340	350	364
EC-IpdA	(313)	GDIVGQPMLAHKGVHEGHVAAEVIAGKKHYFDPKVIPSIAYTEPEVAWVGLT					
KP-IpdA mutated	(313)	GDIVGQPMLAHKGVHEGHVAAEVIISGLKHYFDPKVIPSIAYTKPEVAWVGLT					
		Section 8					
	(365)	365	370	380	390	400	416
EC-IpdA	(365)	EKEAKEKGISYETATFPWAASGRAIASDCADGMTKLIFDKESHVRVIGGAIVG					
KP-IpdA mutated	(365)	EKEAKEKGISYETATFPWAASGRAIASDCADGMTKLIFDKETHRVVIGGAIVG					
		Section 9					
	(417)	417	430	440	450		468
EC-IpdA	(417)	TNGGELLGEIGLAIEMGCD AEDIALTIHAHPTLHESVGLAAEVFEGSITDLP					
KP-IpdA mutated	(417)	TNGGELLGEIGLAIEMGCD AEDIALTIHAHPTLHESVGLAAEVFEGSITDLP					
	(469)	469	476				
EC-IpdA	(469)	NPKAKKK-					
KP-IpdA mutated	(469)	NAKAKKK-					

FIG. 36

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**FIG. 37**

ataataatacatatgaaccatgacgagttacgggcctataagccaggcgagatatgatctatatcaatttctcatctataatgctttgtta
 gtatctcgtcgccgacttaataaaagagagagtagtgtaagctgacaaccctttgatcttttacttctgctgcaatggccaaagtgg
 ccgaagaggcgggtgtctataaagcaacgaaacatccgcttaagactttctatctggcgattaccgccggtgtttcatctcaatcgcatc
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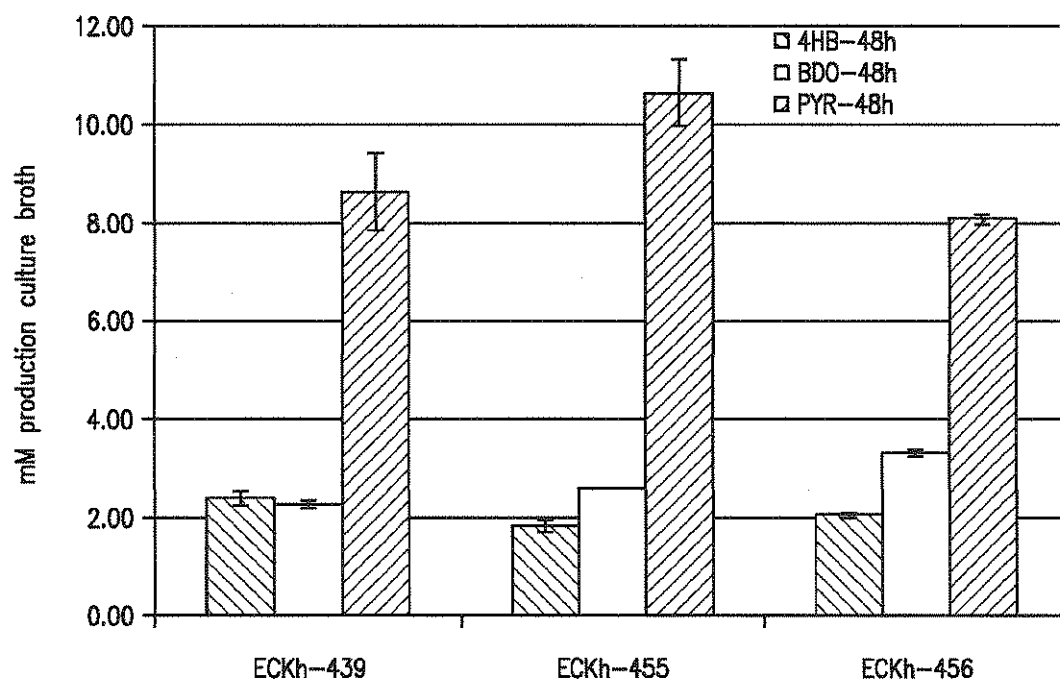
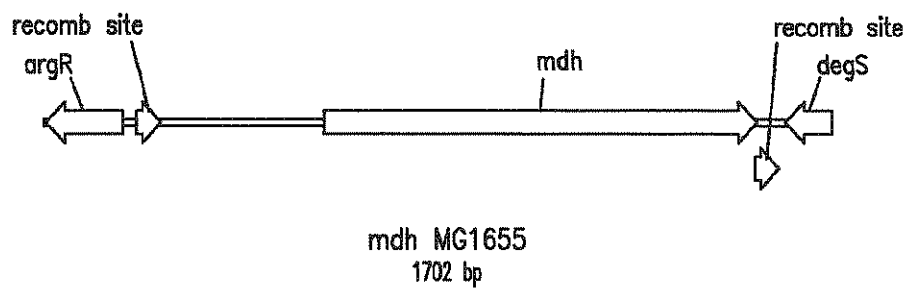
FIG. 38

AAGAGGTAAAAGAATAATGGCTATCGAAATCAAAGTACCGGACATCGGGGCTGATGAAGTTGAAAT
CACCGAGATCCTGGTCAAAGTGGGCGACAAAGTTGAAGCCGAACAGTCGCTGATCACCGTAGAAGG
CGACAAAGCCTCTATGGAAGTTCGTCTCCGCAGGCGGGTATCGTTAAAGAGATCAAAGTCTCTGTT
GGCGATAAAACCCAGACCGGCGCACTGATTATGATTTTCGATTCCGCCGACGGTGCAGCAGACGCT
GCACCTGCTCAGGCAGAAGAGAAGAAAGAAGCAGCTCCGGCAGCAGCACCAGCGGCTGCGGCGGC
AAAAGACGTTAACGTTCCGGATATCGGCAGCGACGAAGTTGAAGTGACCGAAATCCTGGTGAAAGT
TGGCGATAAAGTTGAAGCTGAACAGTCGCTGATCACCGTAGAAGGCGACAAGGCTTCTATGGAAGT
TCCGGCTCCGTTTGCTGGCACCGTGAAAGAGATCAAAGTGAACGTGGGTGACAAAGTGTCTACCGG
CTCGCTGATTATGGTCTTGAAGTCGCGGGTGAAGCAGGCGCGGCAGCTCCGGCCGCTAAACAGGA
AGCAGCTCCGGCAGCGGCCCTGCACCAGCGGCTGGCGTGAAAGAAGTTAACGTTCCGGATATCGG
CGGTGACGAAGTTGAAGTGACTGAAGTGATGGTGAAAGTGGGCGACAAAGTTGCCGTGAACAGT
CACTGATCACCGTAGAAGGCGACAAAGCTTCTATGGAAGTTCCGGCGCGGTTTGAGGCGCTGTGA
AGGAACTGAAAGTCAACGTTGGCGATAAAGTGAAAAGTGGCTCGCTGATTATGATCTTGAAGTTG
AAGGCGCAGCGCTGCGGCAGCTCCTGCGAAAACAGGAAGCGGCAGCGCCGGCACCGGCAGCAAAA
GCTGAAGCCCCGGCAGCAGCACCAGCTGCGAAAAGCGGAAGGCAAATCTGAATTTGCTGAAAACGA
CGTTATGTTACGCGACTCCGCTGATCCGCCGTCTGGCACGCGAGTTTGGTGTTAACCTTGCGAAA
GTGAAGGGCACTGGCCGTAAAGGTCGTATCCTGCGCGAAGACGTTACGGCTTACGTGAAAGAAGCT
ATCAAACGTGCAGAAGCAGCTCCGGCAGCGACTGGCGGTGGTATCCCTGGCATGCTGCCGTGGCCG
AAGGTGGACTTCAGCAAGTTTGGTGAAATCGAAGAAGTGAAGTGGGCCGATCCAGAAAATCTCT
GGTGCGAACCTGAGCCGTAAGTGGGTAAATGATCCCGCATGTTACTCACTTCGACAAAACCGATATCA
CCGAGTTGGAAGCGTTCCGTAAACAGCAGAACGAAGAAGCGGCGAAACGTAAGCTGGATGTGAAG
ATCACCCCGTTGTCTTCATCATGAAAGCCGTTGCTGCAGCTCTTGAGCAGATGCCTCGCTTCAATAG
TTCGCTGTCGGAAGACGGTCAGCGTCTGACCTGAAGAAATACATCAACATCGGTGTGGCGGTGGA
TACCCCGAACGGTCTGGTTGTTCCGGTATTCAAAGACGTCAACAAGAAAGGCATCATCGAGCTGTCT
CGCGAGCTGATGACTATTCTAAGAAAGCGCGTGACGGTAAGCTGACTGCGGGCGAAATGCAGGG
CGTTGCTTCACCATCTCCAGCATCGCGGCCTGGGTACTACCACTTCGCGCCGATTGTGAACGCG
CCGGAAGTGGCTATCCTCGGCGTTTCCAAGTCCGCGATGGAGCCGGTGTGGAATGGTAAAGAGTTC
GTGCCGCGTCTGATGCTGCCGATTTCTCTCCTTCGACCACCGCGTGATCGACGGTGTGATGGTG
CCGTTTCATTACCATCATTAAACAACACGCTGTCTGACATTGCGCGTCTGGTGATGTAAGTAAAGAG
CCGGCCCAACGGCCGGCTTTTTCTGGTAATCTCATGAATGTATTGAGGTTATTAGCGAATAGACAA
ATCGGTTGCCGTTTGTTAAGCCAGGCGAGATATGATCTATATCAATTTCTCATCTATAATGCTTTGTTA
GTATCTCGTCGCCGACTTAATAAAGAGAGAGTTAGTCTTCTATATCACAGCAAGAAGGTAGGTGTTA
CATGATGAGTACTGAAATCAAACTCAGGTCTGGTACTTGGGGCAGGCCCCGAGGTTACTCTGC
AGCCTTCCGTTGCGCTGATTTAGGTCTGGAACCGTATCGTAGAACGTTACAGCACCTCGGTGGT
GTTTGTCTGAACGTGGGTTGTATCCCTTCTAAAGCGCTGCTGCACGTGGCAAAAGTTATCGAAGAAG
CGAAAGCGCTGGCCGAACACGGCATCGTTTTCGGCGAACCGAAAAGTACATTGACAAGATCCGCA
CCTGGAAGAAAAAGTCACTCAGCTGACCGGTGGTCTGGCTGGCATGGCCAAAGGTCGTAAAG
TGAAGGTGGTTAACGGTCTGGGTAAATTTACCGGCGCTAACACCCTGGAAGTGAAGGCGAAAACG
GCAAAACCGTGATCAACTTCGACAACGCCATCATCGCGGCGGGTCCCGTCCGATTAGCTGCCGTT
TATCCCGCATGAAGATCCGCGCGTATGGGACTCCACCGACGCGCTGGAAGTGAATCTGTACCGAA
ACGCATGCTGGTGATGGGCGGCGGTATCATCGGTCTGGAATGGGTACCGTATACCATGCGCTGGG
TTCAGAGATTGACGTGGTGGAAATGTTCCGACAGGTTATCCCGGCTGCCGACAAAGACGTGGTGAA
AGTCTTCACCAACGCATCAGCAAGAAATTTAACCTGATGCTGGAAGCCAAAGTGACTGCCGTTGAA
GCGAAAGAAGACGGTATTTACGTTTCATGGAAGGTAAAAAGCACCGGCGGAAGCGCAGCGTTA
CGACGCACTGCTGGTCTGCTATCGGCCGCGTACCGAATGGTAAAAACCTCGATGCAGGTAAAGCTGG
CGTGGAAGTTGACGATCGCGGCTTCATCCGCGTTGACAA

FIGURE 39

ACAAATGCGCACCAACGTGCCGCACATCTTTGCTATCGGCGATATCGTCGGTCAGCCGATGCTGGCG
CACAAAGGTGTCCATGAAGGCCACGTTGCCGCAGAAGTTATCTCCGGTCTGAAACACTACTTCGATC
CGAAAGTGATCCCATCCATCGCCTACACTAAACCAGAAGTGGCATGGGTCCGTCTGACCGAGAAAAG
AAGCGAAAGAGAAAAGGCATCAGCTACGAAACCGCCACCTTCCCGTGGGCTGCTTCCGGCCGTGCTA
TCGCTTCTGACTGCGCAGATGGTATGACCAAACTGATCTTCGACAAAGAGACCCACCGTGTATCGG
CGGCGCGATTGTCCGCACCAACGGCGGCGAGCTGCTGGGTGAGATCGGCCTGGCTATCGAGATGG
GCTGTGACGCTGAAGACATCGCCCTGACCATCCACGCTCACCCGACTCTGCACGAGTCCGTTGGCCT
GGCGGCGGAAGTGTTGGAAGGCAGCATACCGACCTGCCAAACGCCAAAGCGAAGAAAAAGTAAC
TTTTCTTTTCAGGAAAAAAGCATAAGCGGCTCCGGGAGCCGCTTTTTTATGCCTGATGTTAGAACT
ATGTCAGTGTTATAAACCCTACACCTCATACATACTTTAAGGGCGAATTCTGCAGATATCCATCAC
ACTGGCGGCCGCTCGAGCATGCATCTAGCACATCCGGCAATTAAAAAGCGGCTAACCCACGCCGCTT
TTTTACGTCTGCAATTTACCTTTCCAGTCTTCTTGCTCCACGTTCCAGAGAGACGTTCCGATACTGCTG
ACCGTTGCTCGTTATTGAGCCTGACAGTATGGTTACTGTCGTTTAGACGTTGTGGGCGGCTCTCCTGA
ACTTTCTCCGAAAAACCTGACGTTGTTGAGGTGATGCCGATTGAACACGCTGGCGGGCGTTATCAC
GTTGCTGTTGATTCAGTGGGCGCTGCTGTACTTTTTCTTAACACCTGGCGCTGCTCTGGTGATGCG
GACTGAATACGCTCACGCGCTGCGTCTCTCGCTGCTGGTTCTGCGGGTTAGTCTGCATTTCTCGCG
AACCGCCTGGCGCTGCTCAGGCGAGGCGGACTGAATGCGCTCACGCGCTGCCTCTCTCGCTGCTG
GATCTTCGGGTTAGTCTGCATTCTCTCGGAACTGCCTGGCGCTGCTCAGGCGAGGCGGACTGATAA
CGCTGACGAGCGGCGTCTTTTGTGCTGGGTGAGTGGTTGGCGACGGCTGAAGTCGTGGAAGTCG
TCATAGCTCCCATAGTGTTGAGCTTCATTAAACCGCTGTGCCGCTGCCTGACGTTGGGTACCTCGTGT
AATGACTGGTGCGGCGTGTTGCTTGCTGAACTGATTTGCTGCCGCTGACGCTGGCTGTCGCGC
GTTGGGGCAGGTAATTGCGTGGCGCTCATTCCGCCGTTGACATCGGTTTGATGAAACCGCTTTGCCA
TATCCTGATCATGATAGGGCACACCATTACGGTAGTTTGATTGTGCCGCCATGCCATATTCTTATCA
GTAAGATGCTCACCGGTGATACGGTTGAAATTGTTGACGTCGATATTGATGTTGTCGCCGTTGTGTT
GCCAGCCATTACCGTCACGATGACCGCCATCGTGGTGATGATAATCAT

FIGURE 39 (Cont'd)

**FIG. 40****FIG. 41A**

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FRT

A5-mdh-Kan

XbaI

1 CAAAAAACCG GAGTCTGTGC TCCGTTTTTT TATTATCCGC TAATCAATTA CATATGAATA TCCCTCTTAG TTCTATTCC GAAGTTCTTA TTCTCTAGAA
GTTTTTTGGC CTCAGACACG AGGCCAAAAA ATAATAGCGC ATTAGTTAAT GTATACTTAT AGGAGGAATC AAGGATAAGG CTTCAGGAT AAGAGATCTT
FRT

101 AGTATAGGAA CTTCGGCGCG CCTACCTGTG ACGGAAGATC ACTTCGCAGA ATAAATAAAT CCGGTGTGCC CTGTTGTATC CGGGAAGCCC TGCGCCAAC
TCATATCCCTT GAAGCGCGCG GGATGGACAC TGCCTTCTAG TGAAGCTCTT TATTATTTTA GGAACACAGG GACAACTATG GCCCTTCGGG ACCCGGTGA
201 TTTCGGGAAA ATGAGAGCTT GATCGGCACG TAAGAGGTTT CAACTTTTAC CATAATGAAA TAAGATCACT ACCGGGCGTA TTTTTCAGT TGTCAGATT
AAACCGCTTT TACTCTGAA CTAGCGGTGC ATTCTCCAG GTTGAAAGTG GTATTACTTT ATTCTAGTGA TGCGCCGCAT AAAAACTCA ACAGCTCTAA
Cat

MetGluLys LysIleThr GlyTyrThrThr ValAspIle SerGlnTrp HisArgLysGlu HisPheGlu AlaPheGln

301 TTCAGAGCT AAGGAGCTA AATGGAGAA AAAATCACT GGATATACCA CCGTGTATAT ATCCCATGG CAGCTAAAG AACATTTGA GGCTTTTCA
AAGTCTCTGA TTCTTCTGAT TTTACCTCTT TTTTAGTGA CCTATATGTT GGCACTATA TAGGTTTACC GTAGCTTTC TTGTAAGT CCGTAAGTC
Cat

SerValAlaGln CysThrTyr AsnGlnThr ValGlnLeuAsp IleThrAla PheLeuLys ThrValLysLys AsnLysHis LysPheTyr ProAlaPheIle

401 TCAGTGTCTC AATGTAOCTA TAACGAGAC GTTCAGCTGG ATATTACGGC CTTTTTAAAG ACGTAAGA AAAATAAGCA CAAGTTTAT CCGGCTTTTA
AGTCAACGAG TACATGGAT ATTGGTCTGG CAGTCAAC TATAATGCC GAAAAATTC TGGCATTTCT TTTTATTCGT GTTCAAAATA GCGCGGAAT
Cat

IHisIleLeu AlaArgLeu MetAsnAlaHis ProGluLeu ArgMetAla MetLysAspGly GluLeuVal IleTrpAsp SerValHisPro CysTyrThr

501 TTCACATCTT TGCGCGCTG ATGAATGCTC ATCCGGAATT ACGTATGGCA ATGAAGAGC GTGAGCTGGT GATATGGAT AGTGTTCACC CTGTTTACAC
AAGTGTAAAG ACGGCGGAC TACTTACGAG TAGGCCTTAA TGCTATCCCT TACTTTCTGC CACTCGACCA CTATACCTTA TCACAAGTG GAACAATGTG
Cat

ValPheHis GluGlnThrGlu ThrPheSer SerLeuTrp SerGluTyrHis AspAspPhe ArgGlnPhe LeuHisIleTyr SerGlnAsp ValAlaCys

601 CGTTTTCAT GAGCAACTG AAACGTTTTT ATCGCTCTGG AGTGAATACC ACGACGATTT CCGCAGTTT CTACACATAT ATTGCGAGA TGTGCGCTGT
GCAAAAGTA CTCGTTTAC TTTGCAAAAG TAGCGAGACC TCATTATGG TGCTGCTAAA GGCCTTCAA GATGTGATA TAGCGTTCT ACACCGCACA
Cat

TyrGlyGluAsn LeuAlaTyr PheProLys GlyPheIleGlu AsnMetPhe PheValSer AlaAsnProTrp ValSerPhe ThrSerPhe AspLeuAsnVal

701 TACGTTGAAA ACCTGGGCTA TTCCCTTAAA GGGTTTATG AGAATATGTT TTTGCTCTCA GCCATCCCT GGGTGAATTT CACGATTTT GATTTAACG
ATGCCATTT TGGACCGAT AAAGGATTT CCAAAATAAC TCTTATACAA AAAGCAGAT CGGTAGGGA CCACTTCAA GTGCTCAA CTAAATTTG
Cat

ValaAsnMet AspAsnPhe PheAlaProVal PheThrMet GlyLysTyr TyrThrGlnGly AspLysVal LeuMetPro LeuAlaIleGln ValHisHis

801 TGGCAATAT GAGCAACTTC TTGCCCCCG TTTTCAACAT GGGCAATAT TATACGCAAG GCGACAAGT GTGATGCGG CTGCGGATTC AGTTTATCA
ACCGTTATA CCGTTTGAAG AAGCGGGGC AAAAGTGGTA CCGTTTATA ATATGCTTC CCGTGTCCA GCACTACGC GACGCTAAG TCACACTAGT
Cat

AlaValCys AspGlyPheHis ValGlyArg CysLeuMet AsnThrThrVal LeuArg**

901 TGCGTTTGT GATGGCTTC ATGTGCGCAG ATGCTTATG AATACAACAG TACTGCGATG AGTGGCAGG CGGGCGGTAA GCGCGGCTT TAAATGAAG
ACGCAACA CTACCGAGG TACGCGGTC TACGAATTAC TTATGTTGTC ATGACGCTAC TCACGCTCC GCGCGGCTT CCGCGGCTT AATTACTTC
FRT

1001 TTCTATTCC GAAGTTCTTA TTCTCTAGAA AGTATAGGAA CTTCGAAGCA GCTCCAGCT ACACCTTCT TCAGGCTGA CTGTTTGTCT AAAAAATCAT
AAGGATAAGG CTTCAGGAT AAGAGATCTT TCATATCCCT GAAGCTTCTG CAGCTCGGA TGTGGGAAGA AGTCCGACT GACAAAGCTA TTTTAACTA

S-mdh-Kan

1101 CTGTATGCAC AATA
GACATACGTG TTAT

FIG. 41B

TTATTTGGTGATATTGGTACCAATATCATGCAGCAAACGGTGCAACATTGCCGTGTCTCGTTGCTCTA
AAAGCCCCAGGCGTTGTTGTAACCAAGTCGACCAAGTTTATGTCATCTGCCACTGCCAGAGTCGTCAG
CAATGTCATGGCTCGTTCGCGTAAAGCTTGCAAGTTGATGTTGGTCTGCCGTTGCATCACTTTTCGCCG
GTTGTTGTATTAATGTTGCTAATTGATAGCAATAGACCATCACCGCCTGCCCCAGATTGAGCGAAGG
ATAATCCGCCACCATCGGCACACCAGTAAGAACGTCAGCCAACGCTAACTCTTCGTTAGTCAACCCG
GAATCTTCGCGACCAAACACCAGCGCGGCATGGCTCATCCATGAAGATTTTCTCTAACAGCGGCA
CCAGTTCAACTGGCGTGGCGTAGTAATGATATTTGCCCCGACTGCGCGCAGTGGTGGCGACAGTGA
AATCGACATCGTGTAACGATTGAGCCAATGTCGGGAAAACTTTAATATTATCAATAATATCACCAGAT
CCATGTGCGACCCAGCGGGTGGCTGGCTCCAGGTGTGCTGACTATCGACAATCCGCAGATCGCTA
AACCCCATCGTTTTATTGCCGCGCGCTGCCCAATATTTCTGCTCTGGCGGGTGGCGACCAAGAT
AATCGTTATACGCATATTGCCACTCTTCTTGATCAAATAACCGCGAACCAGGGTGATCACTGTCAACTT
ATTACGCGGTGCGAATTTACAAATCTTAACGTAAGTCGAGAAAAAGCCCTTTACTTAGCTTAAAAA
AGGCTAAACTATTTCTGACTGTACTAACGGTTGAGTTGTTAAAAAATGCTACATATCCTTCTGTTTA
CTTAGGATAATTTATAAAAAATAATCTCGACAATTGGATTACCACGTTTATTAGTTGTATGATGC
AACTAGTTGGATTATTAATAATGTGACGAAAGCTAGCATTAGATACGATGATTTATCAAACTGT
TAACGTGCTACAATTGAACCTGATATATGTCAACGAAGCGTAGTTTTATTGGGTGTCGGGCCCTCTT
AGCCTGTTATGTTGCTGTTAAAATGGTTAGGATGACAGCCGTTTTGACACTGTCGGGTCTGAGGG
AAAGTACCCACGACCAAGCTAATGATGTTGTTGACGTTGATGGAAAGTGCATCAAGAACGCAATTAC
GTACTTTAGTCATGTTACGCCGATCATGTTAATTTGCAGCATGCATCAGGCAGGTGAGGGACTTTTGT
ACTTCTGTTTCGATTTAGTTGGCAATTTAGGTAGCAAACGAATTCATCGGCTTTACCACCGTCAAAA
AAAACGGCGCTTTTATGCGCCGTTTTATTTTCAACCTTATTTCCAGATACGTAACCTCATCGTCCGTT
GTAACCTCTTTACTGGCTTTTATTTTCGGCAGTGAAAAACGCATACCAAGTCGATATTACGGGTACAAA
CATCATGCCGGCCAGCGCCACCACCAGCACACTGGTTCCCAACAACAGCGCGCTATCGGCAGAGTTG
AGCAGTCCCCACATCACACCATCCAGCAACAACAGCGCGAGGGTAAACAACATGCTGTTGCACCAAC
CTTTCAATACCGCTTGCAATAAATACCGTTTATTATCGCCCCAATCAGACTGGCGATTATCCATGCC
ACGGTAAAAACCGGTATGTTTACGAAAGCGCCAGCAAGAGCAAATAAAACATCACCAATGAAAGCCCC
ACCAGCAAATATTGCATTGGGTGTAAACGTTGCGCGGTGAGCGTTTCAAAAACAAAGAACGCCATA
AAAGTCAGTGCAATCAGCAGAATGGCGTACTTAGTCGCCGGTCAGTTAATTGGTATTGATCGGGCTG
GCGTCGTTACTGCGACGCTAAACGCGCGGAAGTTTTCCAGCCGGTATCATTGCCTGAAGCAAAACG
CTACCGAGATTATTAGCAAACCAGCTGCTTGGCAGTGCGCCTGAAAACCTGACTCGTAACCTCCC
GTTTGGCTGGTAGAAAATCACCTAAAAAACTGGGATGCGGCCAGTTGCTGGTTAAGGTCATTTGCT
ATTACGCCCCGAGGCACACAGAAAGATCGCCGGTACCGCTTAAATTCAGGGCCATATTCAGCTTC
AGGTTCTGCTTCCGCCAGTCCCCTTCAGGTAAAGGGATATGCACGCCCTGCCCGCTTCTCTAACCC
GGTGGCGGGTTCAATGGTCAGCGCGTTCCGTTAACTTCAGGCGCTTTCACCACACCAATACCACGC
GCATCCCCGACGCTAATCACAATAAATGGCTTGCCTAAGGTGATATTTGGCGGTTGAGTTCGCTAA
GACGCGAAACATCGAAATCGGCTTTTAACTTAAATCACTGTGCCAGACCTGACCGGTATAAATCCC
TATCTTGGCTTCTTCCACGTTCTGATTGCCATCAACCATCAATGACTCAGGTAACCAAAAATGGATAA
AACTTCGTTTCCGCTGCAGGGTTTTAT

FIGURE 42

AAGCCACAGCAGGATGCCACTGCAACAAAGGTGATCACACCGGAAACGCGATGGAGAATGGACG
CTATCGCCGTGATGGGGAACCGGATGGTCTGTAGGTCCAGATTAACAGGTCTTTGTTTTTCACATTT
CTTATCATGAATAACGCCACATGCTGTTCTTATTATTCCTGGGGACTACGGGCACAGAGGTTAACT
TTCTGTTACCTGGAGACGTCGGGATTTCTTCCTCCGGTCTGCTTGCGGGTCAGACAGCGTCCTTTCT
ATAACTGCGCGTCATGCAAAACACTGCTCCAGATGCGAAAACGACACGTTACAACGCTGGGTGGCT
CGGGATTGCAGGGTGTTCCGGAGACCTGGCGGCAGTATAGGCTGTTACAAAATCATTACAATTAA
CCTACATATAGTTTGTGCGGTTTTATCCTGAACAGTGATCCAGGTCACGATAACAACATTTATTTAAT
TTTTAATCATCTAATTTGACAATCAITCAACAAAGTTGTTACAAACATTACCAGGAAAAGCATATAAT
GCGTAAAAGTTATGAAGTCGGTATTTACCTAAGATTAACTTATGTAAACAGTGTGGAAGTATTGACC
AATTCATTCGGGACAGTTATTAGTGGTAGACAAAGTTAATAATTGCGATTGCTAAGTACTTGATTGCG
CATTTATTCGTATCAATGGATCCTTTACCTGCAAGCGCCAGAGCTCTGTACCCAGGTTTTCCCTCT
TTCACAGAGCGGCGAGCCAAATAAAAAACGGGTAAAGCCAGGTTGATGTGCGAAGGCAAAATTTAA
GTTCCGGCAGTCTTACGCAATAAGGCGCTAAGGAGACCTTAAATGGCTGATACAAAAGCAAACTC
ACCCTCAACGGGGATACAGCTGTTGAAGTGGATGTGCTGAAAGGCACGCTGGGTCAAGATGTTATT
GATATCCGTAATCTCGGTTCAAAGGTGTGTTACCTTTGACCCAGGCTTCACTTCAACCGCATCCTG
CGAATCTAAAATTACTTTTATTGATGGTGATGAAGGTATTTTGCTGCACCGCGGTTTTCCGATCGATC
AGCTGGGCGACCGATTCTAACTACCTGGAAGTTTGTTACATCCTGCTGAATGGTGAAAAACCGACTCA
GGAACAGTATGACGAATTTAAACTACGGTGACCCGTATACCATGATCCACGAGCAGATTACCCGT
CTGTTCCATGCTTTCCGTGCGGACTCGCATCCAATGGCAGTCATGTGTGGTATTACCGGCGCGCTGG
CGGCGTTCTATCACGACTCGCTGGATGTTAACAATCCTCGTACCCGTGAAATTGCCGCGTTCCTCTG
CTGTGCAAAATGCCGACCATGGCCGCGATGTGTTACAAGTATTCATTGGTCAGCCATTTGTTTACCC
GCGCAACGATCTCTCTACGCCGGTAACCTTCTGAATATGATGTTCTCCACGCCGTGCGAACCGTATG
AAGTTAATCCGATTCTGGAACGTGCTATGGACCGTATTCTGATCCTGCACGCTGACCATGAACAGAA
CGCCTCTACCTCCACCGTGCGTACCGCTGGCTCTTCGGGTGCGAACCCGTTTGCCTGTATCGCAGCA
GGTATTGCTTCACTGTGGGGACCTGCGCACGGCGGTGCTAACGAAGCGGCGCTGAAAATGCTGGAA
GAAATCAGCTCCGTTAAACACATTCGGGAATTTGTTCTGCTGCGAAAGACAAAAATGATTCTTTCCG
CCTGATGGGCTTCGGTCAACCGCTGTACAAAAATTACGACCCGCGCGCCACCGTAATGCGTGAAACC
TGCCATGAAGTGCTGAAAGAGCTGGGCACGAAGGATGACCTGCTGGAAGTGGCTATGGAGCTGGA
AAACATCGCGCTGAACGACCCGTACTTTATCGAGAAGAACTGTACCCGAACGTCGATTTCTACTCT
GGTATCATCCTGAAAGCGATGGGTATTCCGTCTTCATGTTACCGTCATTTTCGCAATGGCACGTAC
CGTTGGCTGGATCGCCCACTGGAGCGAAATGCACAGTGACGGTATGAAGATTGCCCGTCCGCGTCA
GCTGTATACAGGATATGAAAAACGCGACTTTAAAAGCGATATCAAGCGTTAATGGTTGATTGCTAAG
TTGTAATATTTTAACCCGCCGTTTATATGGCGGGTTGATTTTTATATGCCTAAACACAAAAAATTGT
AAAAATAAAATCCATTAACAGACCTATATAGATATTTAAAAAGAATAGAACAGCTCAAATTATCAGC
AACCCAATACTTTCAATTAATAAACTTCATGGTAGTCGCATTTATAACCCATGAAAAATGACGTCTATCT
ATACCCCCCTATATTTTATTCATCATAACAACAAATTCATGATACCAATAATTTAGTTTTGCATTTAATAA
AACTAACAATATTTTTAAGCAAACTAAAACTAGCAATAATCAAATACGATATTCTGGCGTAGCTAT
ACCCCTATTCTATATCCTTAAAGGACTCTGTTATGTTTAAAGGACAAAAACATTGGCCGCACTGGCC
GTATCTCTGCTGTTCACTGCACCTGTTTATGCTGCTGATGAAGGTTCTGGCGAAATTCATTTAAGGG
GGAGGTTATTGAAGCACCTTGTAATTCATCCAGAAGATATTGATAAAAAACATAGATCTTGGACAA
GTCACGACAACCATATAAACCGGGAGCATCATAGCAATAAAGTGGCCGTCGACATTCGCTTGATCA
ACTGTGATCTGCCTGCTTCTGACAACGGTAGCGGAATGCCGGTATCCAAAGTTGGCGTAACCTTCGA
TAGCACGGCTAAGACAACTGGTGCTACGCCCTTTGTTGAGCAACACCAAGTGCAGGCGAAGCAACTGG
GGTCGGTGTACGACTGATGGACAAAAATGACGGTAACATCGTATTAGGTTTACGCCGCGCCAGATCT
TGACCTGGATGCAAGCTCATCAGAACAGACGCTGAACTTTTTCGCCTGGAT

FIGURE 43

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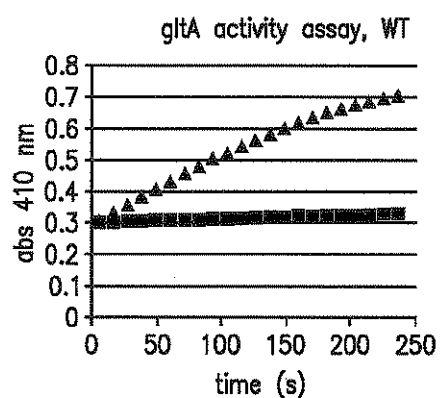


FIG. 44A

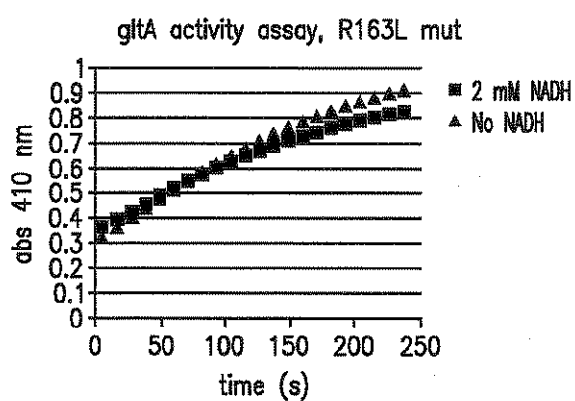


FIG. 44B

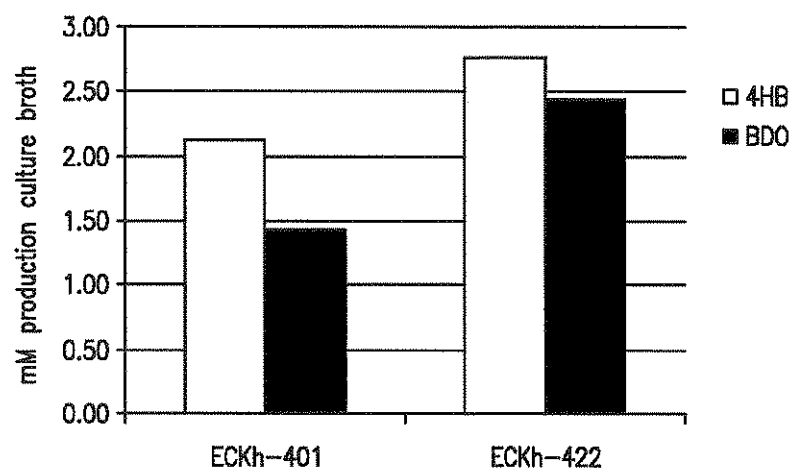


FIG. 45

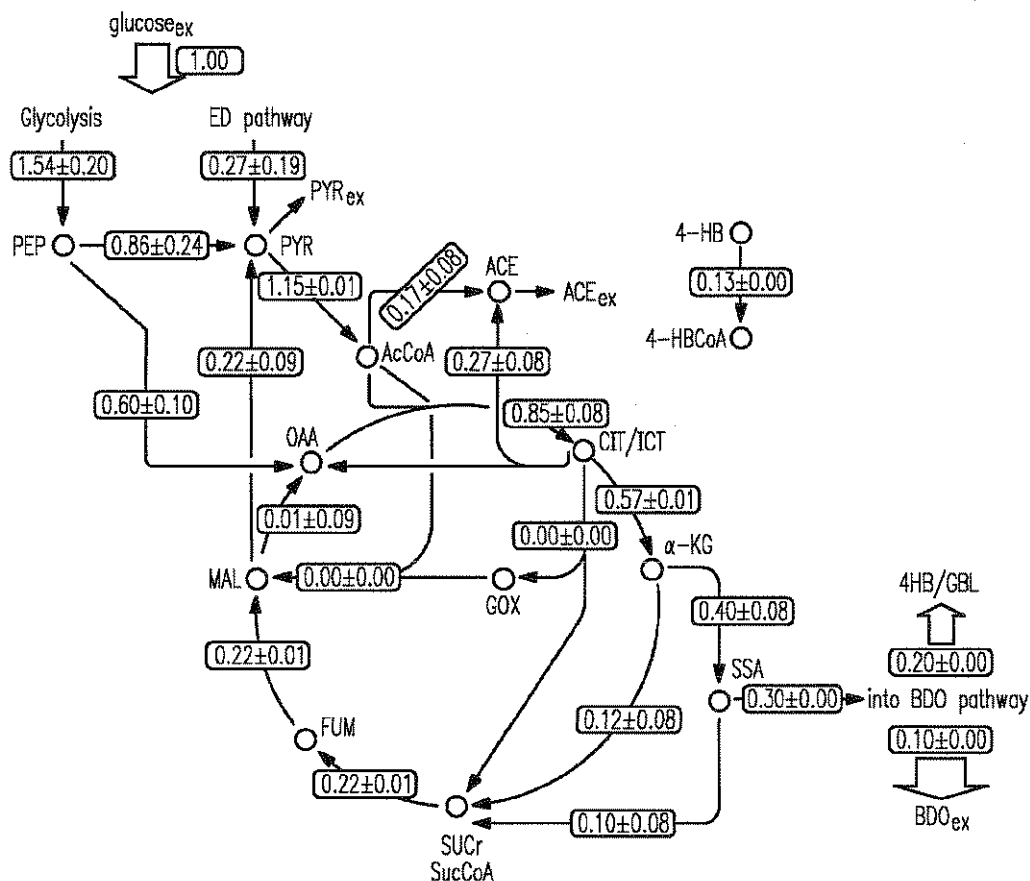


FIG. 46

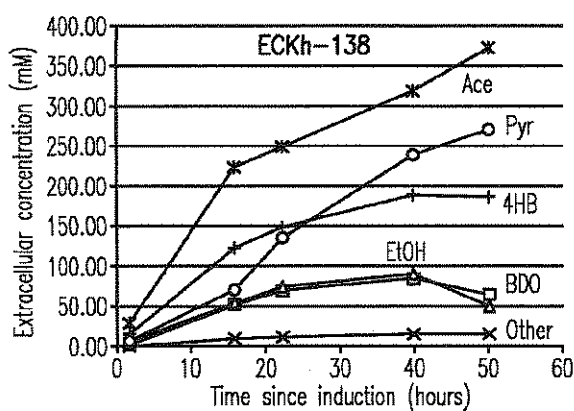


FIG. 47A

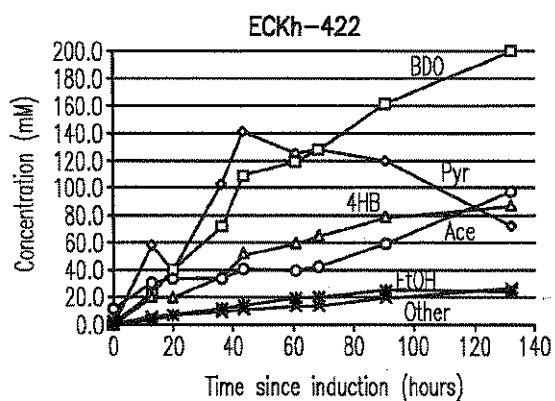


FIG. 47B

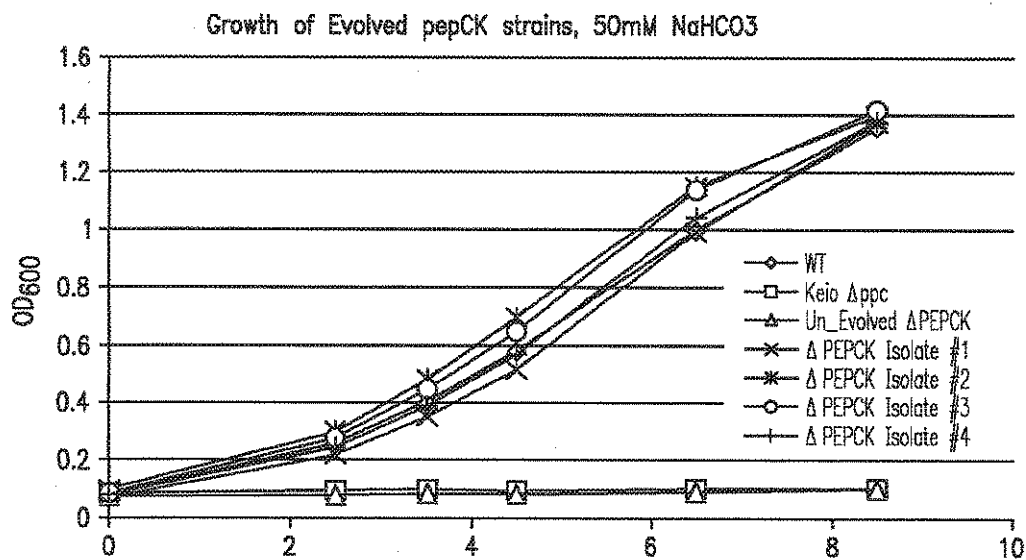
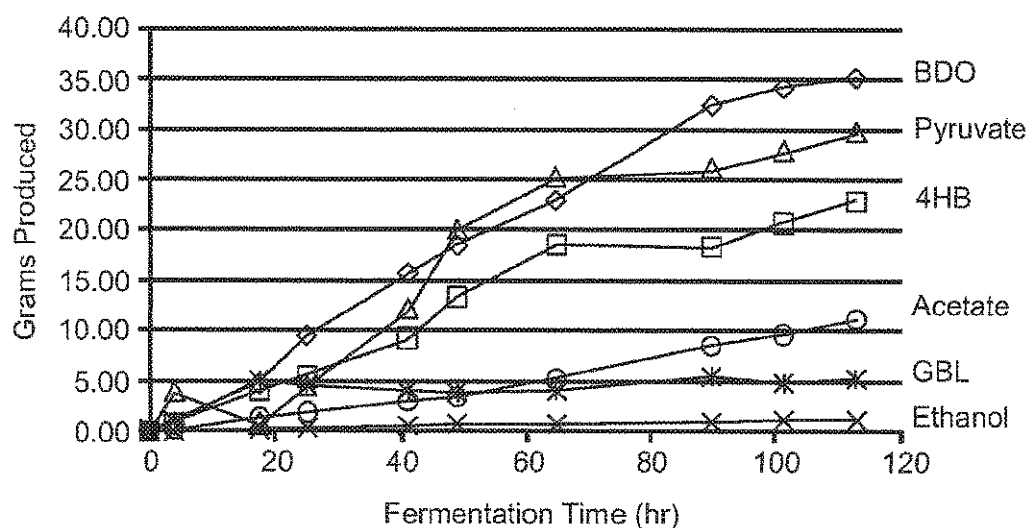
CGCGATGTCGACGTCACGAACTGAAAAAACCGCTCTACATTCTGGCGACTGCTGATGAAGAAACC
AGTATGGCCGGAGCGCGTTATTTGCCGAACTACCGCCCTGCGCCCGGATTGCGCCATCATTGGCG
AACCGACGTCATAACCGGTACGCGCACATAAAGGTCATATCTCTAACGCCATCCGTATTCAGGG
CCAGTCGGGGCACTCCAGCGATCCAGCACGCGGAGTTAACGCTATCGAACTAATGCACGACGCCAT
CGGGCATAATTTGCAATTGCGCGATAACCTGAAAGAACGTTATCACTACGAAGCGTTTACCGTGCCA
TACCTACGCTCAACCTCGGGCATATTCACGCTGGCGACGCTTCTAACCGTATTTGCGCTTGCTGTGA
GTTGCATATGGATATTCGTCCGCTGCCTGGCATGACACTCAATGAACCTAATGGTTTGCTCAACGATG
CATTGGCTCCGGTGAGCGAACGCTGGCCGGTCTGTGACGGTCGACGAGCTGCATCCGCCGATCC
CTGGCTATGAATGCCACCGAATCATCAACTGGTTGAAGTGGTTGAGAAATTGCTCGGAGCAAAAA
CCGAAGTGGTGAACCTACTGTACCGAAGCGCCGTTTATTCAAACGTTATGCCCGACGCTGGTGGTGGG
GCCTGGCTCAATTAATCAGGCTCATCAACCTGATGAATATCTGGAAACACGGTTTATCAAGCCACCC
GCGAACTGATAACCCAGGTAATTCACCATTTTTGCTGGCATTAAACGCTAGGCCGGATAAGGCGCTC
GCGCCGATCCGGCGCTGTTGCCAACTCCAGTGCCGCAATAATGTCGGATGCGATGCTTGCGCATC
TTATCCGACCTACAGTGACTCAAACGATGCCCAACCGTAGGCCGGATAAGGCGCTCGCGCCGATCC
GGCACTGTTGCCAACTCCAGTGCCGCAATAATGTCGGATGCGATACTTGCGCATCTTATCCGACCG
ACAGTGACTCAAACGATGCCCAACTGTAGGCCGGATAAGGCGCTCGCGCCGATCCGGCACTGTTG
CCAACTCCAGTGCCGCAATAATGTCGGATGCGATACTTGCGCATCTTATCCGACCTACACCTTTGGT
GTTACTTGGGGCGATTTTTAACATTTCCATAAGTTACGCTTATTTAAAGCGCTCGTGAATTAATGAC
GTAAATTCCTGCTATTTATTCGTTTGTGAAGCGATTTGCGCAGCATTTGACGTCACCGCTTTACGTG
GCTTTATAAAGACGACGAAAAAGCAAGCCCGAGCATATTCGCGCCAATGCTAGCAAGAGGAGAAG
TCGACATGACAGACTTAAATAAAGTGGTAAAAGAACTGAAGCTCTTGGTATTTATGACGTAAAAAG
AGTTGTTTACAATCCAAGCTACGAGCAATTGTTTGAAGAAGAACTAAACCAGGTTTAGAAGGCTTT
GAAAAAGGTACTTTAACTACGACTGGTGCAGTGGCAGTAGATACAGGTATCTTCACAGGTCGTTCTC
CAAAAGATAATATATCGTGTTAGATGAAAAAACCAAGATACTGTTTGGTGGACATCTGAAACAGC
AAAAACGACAACAAGCCAATGAACCAAGCTACATGGCAAAGCTTAAAGACTTGGTAACCAACCA
GCTTCTCGTAAACGCTTATTTGAGTTGATGGTTTCTGTGGTGGCAGCGAACACGACCGTATTGCA
GTACGTATTGCTACTGAAGTAGCGTGGCAAGCACATTTGTAAAAAATATGTTTATTCGCCCAACTGA
AGAACAACCTCAAAATTTGAACCAGATTTGTTGTAATGAATGGTTCTAAAGTAACCAATCCAACT
GGAAAGAACAAGGTTTAAATTCAGAAAACTTTGTTGCTTTCAACTTGACTGAACGCATTCAATTAATC
GGTGGTACTTGGTACGGCGGTGAAATGAAAAAGGTATGTTCTCAATCATGAACACTTCTTACCAC
TAAAGGTGTTGGTGCAATGCACTGCTCAGCTAACGTTGGTAAAGATGGCGATGTAGCAATCTTCTT
CGGCTTATCTGGCACAGGTAACAACACCTTTCAACGGATCCAAAACGTGAATTAATCGGTGACGAT
GAACACGGCTGGGATGATGTGGGTATCTTAACTTGAAGGTGGTTGCTATGCGAAAACCATTCACC
TTTCAGAAGAAAATGAACCAGATTTTACCGCGCTATCCGTCGCGACGCATTATTAGAAAACGTGGT
TGTTCTGTCAGATGGTTCTGTTGATTTGATGATGGTTCAAAAACAGAAAATACTCGCGTGTCTTACC
CAATTTATCACATTGATAACATTGTAAAACAGTTTCTCGTGAGGTACAGCAACTAAAGTGATTTTC
TAACTGCAGATGCATTTGGCGTATTACCACAGTATCTAAATTGACACCAGAACAACTAAATACTA
CTTCTTATCTGGTTTACAGCAAAATTAGCAGGTACTGAACGTGGTATTACTGAACCAACTCCAATT
TCTCAGCATGTTTCGGTGCTGCGTTCTTAACCTTCAACCACTCAATATGCAGAAGTGTAGTAAAA
CGTATGCAAGCAGTGGGTGCTGAAGCTTACTTAGTAAATACTGGTTGGAATGGCACAGGCAACGT
ATCTCAATCAAAGATACTCGCGGAATCATTGATGCAATCTTAGATGGCTCAATTGAAAAAGCTGAAA
TGGGCGAATTACCAATCTTAACTTAGCCATTCTAAAGCATTACCAGGTGTAGATTCTGCAATCTTA
GATCCTCGCGATACTTACGAGATAAAGCACAATGGCAATCAAAAGCTGAAGACTTAGCAGGTGCTT
TTGTGAAAAAATTTGTTAAATATGCAACTAACGAAGAAGGCAAAAGCTTTAATTGCAGCTGGTCTAA
AGCTTAATCTAGAAAGCTTCTAGAGGCATCAATAAAACGAAAGGCTCAGTCGAAAGACTGGGCC
TTTCGTTTTATCTGTTGTTGTCGGTGAACGCTCTCCTGAGT

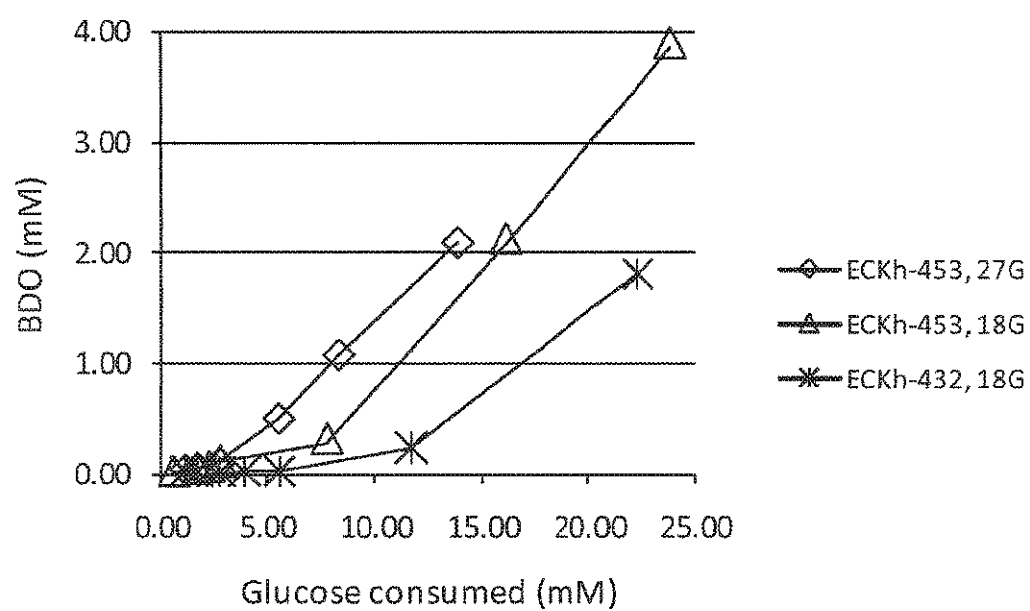
FIGURE 48

AGGACGAATTCACCTTCTGTTCTAACACCCCTCGTTTTCAATATATTTCTGTCTGCATTTTATTCAAATCT
GAATATACCTTCAGATATCCTTAAGGAATTGTCGTTACATTCGGCGATATTTTTCAAGACAGGTTCT
TACTATGCATTCCACAGAAGTCCAGGCTAAACCTCTTTTAGCTGGAAAGCCCTGGGTTGGGCACTG
CTCTACTTTTGGTTTTCTCTACTCTGCTACAGGCCATTATTACATCAGTGGTTATAGTGGCACTAAC
GGCATTGCGGACTCGCTGTTATTAGTTGCTGTGGTTGATCCCGGTATTCCTCTTCCGAAGCGGAT
TAAAATTATTGCCGCAGTAATCGGCGTGGTGCTATGGGCGGCCTCTCTGGCGGCGCTGTGCTACTAC
GTCATCTACGGTCAGGAGTTCTCGCAGAGCGTTCTGTTTGTGATGTTGAAACCAACACCAACGAAG
CCAGCGAGTATTTAAGCCAGTATTTAGCCTGAAAATTGTGCTTATCGCGCTGGCCTATACGGCGGT
GGCAGTTCTGCTGTGGACACGCCTGCGCCCGGTCTATATTCAAAGCCGTGGCGTTATGTTGTCTCTT
TTGCCCTGCTTATGGCTTGATTCTGCATCCGATCGCCATGAATACGTTTATCAAAAACAAGCCGTTT
GAGAAAACGTTGGATAACCTGGCCTGCGGTATGGAGCCTGCCGCACCGTGGCAATTCCTGACCGGC
TATTATCAGTATCGTCAGCACTAAACTCGCTAACAAAGTTACTGAATGAAAATAATGCCTTGCCGCC
ACTGGCTAATTTCAAAGATGAATCGGGTAACGAACCGCGCACTTTAGTGCTGGTGATTGGCGAGTC
GACCCAGCGCGGACGCATGAGTCTGTACGGTTATCCGCGTGAAACCACGCCGGAGCTGGATGCGCT
GCATAAAACCGATCCGAATCTGACCGTGTTAATAACGTAGTTACGTCTCGTCCGTACACCATGAAA
TCCTGCAACAGGCGCTGACCTTGCCAAAGAAAAGAACCCGATCTGTATCTGACGCAGCCGTCGCT
GATGAACATGATGAAACAGGCGGGTTATAAACCTTC

FIGURE 48 (cont'd)

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**FIG. 49****FIG. 50**

**FIG. 51**

AATAGGCGTATCACGAGGCCCTTTCTGCTTCACCTCGAGAATTGTGAGCGGATAACAATTGACATTG
TGAGCGGATAACAAGATACTGAGCACATCAGCAGGACGCACTGACCGAATTCAATTAAGCTAGCAA
GAGGAGAAGTCGAGATGAACTTACATGAATATCAGGCAAAACAACTTTTGCCCGCTATGGCTTACC
AGCACCGGTGGGTATGCCTGTACTACTCCGCGCGAAGCAGAAGAAGCCGCTTCAAAAATCGGTGC
CGGTCCGTGGGTAGTGAAATGTCAGGTTACGCTGGTGGCCGCGTAAAGCGGGCGGTGTGAAAG
TTGTAAACAGCAAAGAAGACATCCGTGCTTTGCGAAAACTGGCTGGGCAAGCGTCTGGTAACGT
ATCAAACAGATGCCAATGGCCAACCGTTAACCAGATTCTGTTGAAGCAGCGACCGATATCGCTAA
AGAGCTGTATCTCGGTGCCGTGTTGACCGTAGTTCCCGTCGTGTGGTCTTTATGGCTCCACCGAA
GGCGGCGTGGAAATCGAAAAAGTGGCGGAAGAACTCCGCACCTGATCCATAAAGTTGCGCTTGAT
CCGCTGACTGGCCCGATGCCGTATCAGGGACGCGAGCTGGCGTTCAAAGTGGGTCTGGAAGGTAA
CTGGTTTACGAGTTACCAAAATCTTCATGGGCTGGCGACCATTTCTGGAGCGCGACCTGGCGT
TGATCGAAATCAACCCGCTGGTCATCACCAACAGGGCGATCTGATTGCTCGACGGCAAAGTGGG
CGCTGACGGCAACGCACTGTTCCGCCAGCCTGATCTGCGGAAATGCGTGACCACTGCGAGGAAGA
TCCGCGTGAAGCACAGGCTGCACAGTGGGAACTGAACTACGTTGCGCTGGACGGTAACATCGGTTG
TATGGTTAACGGCGCAGGTCTGGCGATGGGTACGATGGACATCGTTAAAGTGCACGGCGGCGAACC
GGCTAACTTCTTGACGTTGGCGGCGCGCAACCAAAGAAGCTGTAACCGAAGCGTTCAAAATCAT
CCTCTCTGACGACAAAGTGAAGCCGTTCTGGTTAACATCTTCGGCGGTATCGTTCTTGCGACCTG
ATCGCTGACGGTATCATCGGCGCGGTAGCAGAAGTGGGTGTTAACGTACCGGTCTGGTACGTCTG
GAAGGTAACAACGCCGAAGTGGCGCGAAGAACTGGCTGACAGCGGCCTGAATATTATTGCAGCA
AAAGGTCTGACGGATGCAGCTCAGCAGGTTGTTGCCGAGTGGAGGGGAAATAATGTCCATTTTAA
TCGATAAAAAACCAAGGTTATCTGCCAGGGCTTTACCGGTAGCCAGGGGACTTTCCACTCAGAACA
GGCCATTGCATACGGCACTAAAATGTTGGCGGCGTAACCCAGGTAAAGGCGGCACCAACCCACCT
CGGCCTGCCGGTGTCAACACCGTGCGTGAAGCCGTTGCTGCCACTGGCGCTACCGCTTCTGTTATC
TACGTACCAGCACCGTTCTGCAAAGACTCCATTCTGGAAGCCATCGACGCAGGCATCAAAGTATTA
TCACCATCACTGAAGGCATCCCGACGCTGGATATGCTGACCGTGAAAGTGAAGCTGGATGAAGCAG
GCGTTCTGATGATCGGCCGAAGTGGCCAGGCGTTATCACTCCGGGTGAATGCAAAATCGGTATCCA
GCCTGGTCACATTACAAACCGGGTAAAGTGGGTATCGTTTCCCGTCCGGTACACTGACCTATGAA
GCGGTTAAACAGACCAACGATTACGTTTTCGGTCAGTCGACCTGTGTGCGGTATCGGCGGTGACCCG
ATCCCGGGCTCTAACTTTATCGACATTCTCGAAATGTTGAAAAAGATCCGCAGACCGAAGCGATCG
TGATGATCGGTGAGATCGGCGGTAGCGCTGAAGAAGAAGCAGCTGCGTACATCAAAGAGCACGTT
ACCAAGCCAGTTGTGGGTTACATCGCTGGTGTGACTGCGCCGAAAGGCAAACGTATGGGCCACGCG
GGTGCCATCATTGCCGGTGGGAAAGGGACTGCGGATGAGAAATTCGCTGCTCTGGAAGCCGCGAG
CGTGAAAACCGTTGCGAGCCTGGCGGATATCGGTGAAGCACTGAAAAGTGTCTGAAATAATCTAGC
AAGAGGAGAAGTCGACATGGAAATCAAAGAAATGGTGAGCCTTGACGCAAGGCTCAGAAGGAGT
ATCAAGCTACCCATAACCAAGAAGCAGTTGACAACATTTGCCGAGCTGCAGCAAAAGTTATTTATGA
AAATGCAGCTATTCTGGCTCGCGAAGCAGTAGACGAAACCGGCATGGGCGTTTACGAACACAAAGT
GGCCAAGAATCAAGGCAAATCAAAGGTGTTTGGTACAACCTCCACAATAAAAAATCGATTGGTATC
CTCAATATAGACGAGCGTACCGGTATGATCGAGATTGCAAAGCCTATCGGAGTTGTAGGAGCCGTA
ACGCCGACGACCAACCGATCGTTACTCCGATGAGCAATATCATCTTTGCTCTTAAGACCTGCAATGC
CATCATTATTGCCCCCACCAGATCAAAAAATGCTCTGCACACGCAAGTTCGTCTGATCAAAGAAG
CTATCGCTCCGTTCAACGTACCGGAAGGTATGGTTCAGATCATCGAAGAACCAGCATCGAGAAGAC
GCAGGAACCTCATGGGCGCCGTAGACGTAGTAGTTGCTACGGGTGGTATGGGCATGGTGAAAGTCTG
CATATTCTTCAGGAAAGCCTTCTTCGGGTGTTGGAGCCGGTAACGTTACGGTGATCGTGGATAGCAA
CATCGATTTCAAGCTGCTGCAGAAAAAATCATCAC

FIGURE 52

CGGTCGTGCTTTGACAAACGGTATCATCTGCTCAGGCGAACAGAGCATCATCTACAACGAGGCTGAC
AAGGAAGCAGTTTTACAGCATTCCGCAACCACGGTGCATATTTCTGTGACGAAGCCGAAGGAGAT
CGGGCTCGTGAGCTATCTTCGAAAATGGAGCCATCGCGAAAGATGTAGTAGGTGAGAGCGTTGCC
TTCATTGCCAAGAAAGCAAACATCAATATCCCCGAGGGTACCCGTATTCTCGTTGTTGAAGCTCGCG
GCGTAGGAGCAGAAGACGTTATCTGTAAGGAAAAGATGTGTCCCGTAATGTGCGCCCTCAGCTACA
AGCACTTCGAAGAAGGTGTAGAAATCGCACGTACGAACCTCGCCAACGAAGGTAACGGCCACACCT
GTGCTATCCACTCCAACAATCAGGCACACATCATCCTCGCAGGATCAGAGCTGACGGTATCTCGTAT
CGTAGTGAATGCTCCGAGTGCCACTACAGCAGGCGGTACATCCAAAACGGTCTTGCCGTAACCAAT
ACGCTCGGATGCGGATCATGGGGTAATACTCTATCTCGAGAACTTCACTTACAAGCACCTCCTCA
ACATTTACGCATCGCACCGTTGAATCAAGCATTACATCCCCGATGACAAAAGAAATCTGGGAACT
CTAATCTAGCAAGAGGAGAAGTCGACATGCAACTTTCAAACCTCAAGAGTGTAACACATCACTTTGA
CACTTTTGCGAATTTGCCAAGGAATTCTGTCTTGAGAACGCGACTTGGTAATTACCAACGAGTTC
ATCTATGAACCGTATATGAAGGCATGCCAGTCCCCTGCCATTTTGTTATGCAGGAGAAATATGGGC
AAGGCGAGCCTTCTGACGAAATGATGAATAACATCTTGGCAGACATCCGTAATATCCAGTTCGACCG
CGTAATCGGTATCGGAGGAGGTACGGTTATTGACATCTCTAACTTTTCGTTCTGAAAGGATTAAAT
GATGTACTCGATGCATTGACCGCAAAATACCTCTTATCAAAGAGAAAGAACTGATCATTGTGCCCA
CAACATGCGGAACGGGTAGCGAGGTGACGAACATTTCTATCGCAGAAATCAAAGCCGTCACACCA
AAATGGGATTGGCTGACGATGCCATTGTTGCAGACCATGCCATCATACCTGAACCTCTGAAGAG
CTTGCTTTCCACTTCTACGCATGCAGTGCAATCGATGCTCTTATCCATGCCATCGAGTCATACGTATC
TCCTAAAGCCAGTCCATATTCTCGTCTGTTCACTGAGGCGGCTTGGGACATTATCCTGGAAGTATTCA
AGAAAATCGCCGAACACGGCCCTGAATACCGCTTCGAAAAGCTGGGAGAAATGATCATGGCCAGCA
ACTATGCCGGTATAGCCTTCGGAAATGCAGGAGTAGGAGCCGTCCACGCACTATCCTACCCGTTGGG
AGGCAACTATCACGTGCCGCATGGAGAAGCAAACCTATCAGTTCTTCACAGAGGTATTCAAAGTATAC
CAAAAGAAGAATCCTTTGCGCTATATAGTCGAACTCAACTGGAAGCTCTCCAAGATACTGAACTGCC
AGCCCGAATACGTATATCCGAAGCTGGATGAACTTCTCGGATGCCTTCTTACCAAGAAACCTTTGCAC
GAATACGGCATGAAGGACGAAGAGGTAAAGAGGCTTTGCGGAATCAGTGCTTAAGACACAGCAAAG
ATTGCTCGCCAACAACTACGTAGAGCTTACTGTAGATGAGATCGAAGGTATCTACAGAAGACTCTAC
TAATCTAGAAAGCTTCTAGAGGCATCAAATAAAACGAAAGGCTCAGTCGAAAGACTGGGCCTTTC
GTTTTATCTGTTGTTTGTGCGGTGAACGCTCTCCTGAGTAGGACAAATCCGCCGCCCTAGACCTAGGC
GTTGCGCTGCGACACGTCTTGAGCGATTGTGTAGGCTGGAGCTGCTTCGAAGTTCCTATACTTTCTA
GAGAATAGGAACTTCGGAATAGGAACTAAGGAGGATATTCATATGGACCATGGCTAATCCCAT

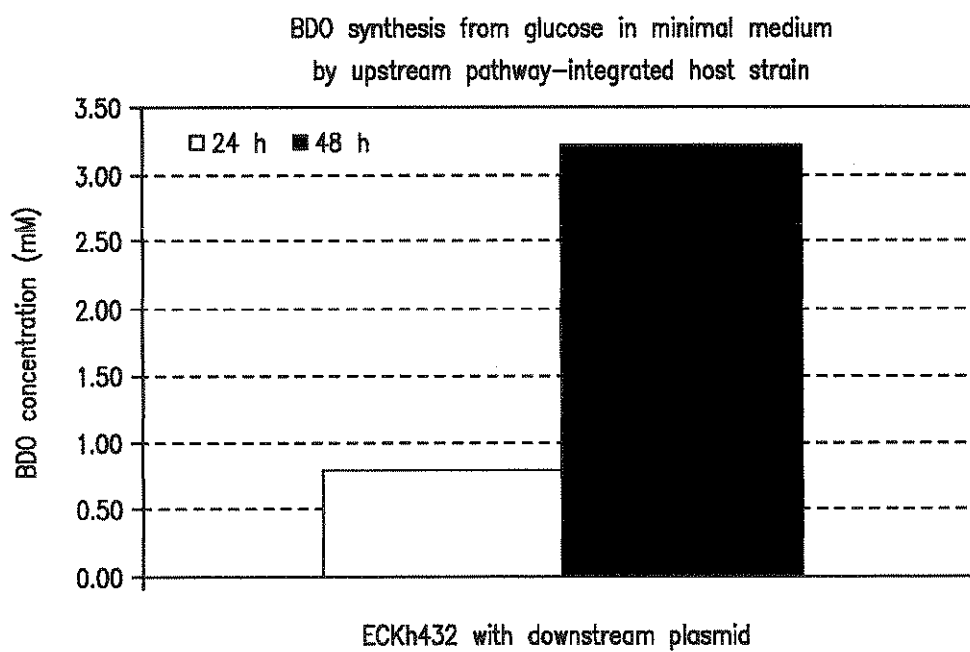
FIGURE 52 (cont'd)

TCGAGAAATTTATCAAAAAGAGTGTTGACTTGTGAGCGGATAACAATGATACTTAGATTCAATTGTG
AGCGGATAACAATTTACACAGAATTCAATTAAGCTAGCAAGAGGAGAAGTCGACATGGCCAAACAT
AAGTTCACCATTCGGGCAAAACGAATGGCTGGTTGAAGAGATGTACCGCAAGTTCGCGCAGCACCC
CTCCTCGGTGATCCCAGCTGGCAGAGTTCCTGGTTGACTACAGCCCCGAACCCACCTCCCAACCA
GCTGCCGAACCAACCCGGGTTACCTCGCCACTCGTTGCCGAGCGGGCCGCTGCGGCCGCCCCGAG
GCACCCCCAAGCCGGCCGACACCGCGGCCGCGGCAACGCGTGGTCGCCGCACTGGCCGCCAA
AACTGCCGTTCCCCGCCAGCCGAAGGTGACGAGGTAGCGGTGCTGCGCGGCCGCGGCCGCGGCCG
TCGTCAAGAACATGTCCGCGTCTGGAGGTGCCGACGGCGACCAGCGTCCGGGCGGTCCCGGCCA
AGCTACTGATCGACAACCGGATCGTCATCAACAACCAAGTTGAAGCGGACCCGCGGCCGCAAGATCT
CGTTCACGCATTTGCTGGGCTACGCCCTGGTGCAGGCGGTGAAGAAATCCCGAACATGAACCGGC
ACTACACCGAAGTCGACGGCAAGCCACCGCGGTACGCCGCGCACACCAATCTCGGCTGGCGA
TCGACCTGCAAGGCAAGGACGGGAAGCGTTCCTGGTGGTGGCCGGCATCAAGCGGTGCGAGACC
ATGCGATTGCGCGAGTTCGTACGGCCTACGAAGACATCGTACGCCGGGCCCGCGACGGCAAGCTG
ACCACTGAAGACTTTGCCGGCGTGACGATTCGTGACCAATCCCGAAACCATCGGCACCGTGCAAT
CGGTGCCGCGGCTGATGCCGGCCAGGGCGCCATCATCGGCGTGCGGCCCATGGAATACCCCGCC
GAGTTTCAAGGCGCCAGCGAGGAACGCATCGCCGAGCTGGGCATCGGCAAATTGATCACTTTGACC
TCCACCTACGACCACCGCATCATCCAGGGCGCGGAATCGGGCGACTTCCTGCGCACCATCCACGAGT
TGCTGCTCTCGGATGGCTTCTGGGACGAGGTCTTCGCGAACTGAGCATCCCATATCTGCCGTGCG
CTGGAGCACCGACAACCCGACTCGATCGTCGACAAGAACGCTCGCGTCATGAACCTGATCGCGGC
CTACCGCAACCGCGGCCATCTGATGGCCGATACCGACCCGCTGCGGTTGGACAAAGCTCGGTTCCGC
AGTCAACCCGACCTCGAAGTGCTGACCCACGGCCTGACGCTGTGGGATCTCGATCGGGTGTTCAAG
GTCGACGGCTTTGCCGGTGCGCAGTACAAGAACTGCGCGACGTGCTGGGCTTGCTGCGCGATGCC
TACTGCCGCCACATCGGCGTGAGTACGCCCATATCCTCGACCCGAACAAAAGGAGTGGCTCGAA
CAACGGGTCGAGACCAAGCACGTCAAACCCACTGTGGCCCAACAGAAATACATCCTCAGCAAGCTC
AACGCCGCCGAGGCCTTTGAAACGTTCTACAGACCAAGTACGTGCGCCAGAAGCGGTTCTCGCTG
GAAGGCGCCGAAAGCGTGATCCCGATGATGGACGCGCGCATCGACCAAGTGCCTGAGCACGGCCT
CGACGAGGTGGTCATCGGGATGCCGCACCGGGGCCGGCTCAACGTGCTGGCCAACATCGTCGGCA
AGCCGTACTCGCAGATCTTACCGAGTTCGAGGGCAACCTGAATCCGTGCGAGGCGCACGGCTCCG
GTGACGTCAAGTACCACCTGGGCGCCACCGGGCTGTACCTGCAGATGTTGCGCGACAACGACATTC
AGGTGTCGTGACCGCCAACCCGTCGCATCTGGAGGCCGTGACCCGGTGCTGGAGGGATTGGTGC
GGGCCAAGCAGGATCTGCTCGACCACGGAAGCATCGACAGCGACGGCCAACGGGCGTTCTCGGTG
GTGCCGCTGATGTTGCATGGCGATGCCGCGTTCGCCGGTCAGGGTGTGGTGCCTGAGACGCTGAAC
CTGGCGAATCTGCCGGGCTACCGCGTCGGCGGCACCATCCACATCATCGTCAACAACAGATCGGGT
TCACCACCGCGCCGAGTATTCCAGGTCCAGCGAGTACTGCACCGACGTGCAAGATGATCGGGG
CACCGATCTTTCACGTCAACGGCGACGACCCGGAGGCGTGTGTCTGGGTGGCGCGGTTGGCGGTGG
ACTTCCGACAACGGTTCAAGAAGGACGTGTCATCGACATGCTGTGCTACCGCCGCCGCGGGCACA
ACGAGGGTGACGACCCGTGATGACCAACCCCTACATGTACGACGTGTCGACACCAAGCGCGGGG
CCCGCAAAAGCTACACCGAAGCCCTGATCGGACGTGGCGACATCTCGATGAAGGAGGCCGAGGAC
GCGCTGCGCGACTACCAGGGCCAGCTGGAACGGGTGTTCAACGAAGTGCGCGAGCTGGAGAAGCA
CGGTGTGCGAGCCGAGCGAGTCGGTCGAGTCCGACCAGATGATTCCCGCGGGGCTGGCCACTGCGG
TGGACAAGTCGCTGCTGGCCCGGATCGGCGATGCGTTCTCGCCTTGCCGAACGGGTTACCCGCGCA
CCCGCGAGTCCAACCGGTGCTGGAGAAGCGCCGGGAGATGGCCTATGAAGGCAAGATCGACTGGG
CCTTTGGCGAGCTGCTGGCGCTGGGCTCGCTGGTGGCCGAAGGCAAGCTGGTGCCTGTGCGGGG
AGGACAGCCGCCGCGGCACCTTCTCCAGCGGCATTGCGTTCTCATCGACCGCCACACTGGCGAGG
AGTTCACACCACTGCAGCTGCTGGCGACCAACTCCGACGGCAGCCCGACCGCGGAAAGTTCCTGG
TCTACGACTCGCCACTGTGCGAGTACGCCCGCTCGGCTTCGAGTACGGCTACACTGTGGGCAATCC
GGACGCCGTGGTGCTCTGGGAGGCGCAGTTCGGCGACTTCGTCAACGGCGCACAGTCGATCATCGA

FIGURE 53

CGAGTTCATCAGCTCCGGTGAGGCCAAGTGGGGCCAATTGTCCAACGTCGTGCTGCTGTTACCGCAC
GGGCACGAGGGGCAGGGACCCGACCACACTTCTGCCCGGATCGAACGCTTCTTGACGTTGTGGGCG
GAAGGTTTCGATGACCATCGCGATGCCGTCGACTCCGTGCAACTACTTCCACCTGCTACGCCGGCATG
CCCTGGACGGCATCCAACGCCCGCTGATCGTGTTACGCCCAAGTCGATGTTGCGTCACAAGGCCGC
CGTCAGCGAAATCAAGGACTTCACCGAGATCAAGTTCGCTCAGTGCTGGAGGAACCCACCTATGA
GGACGGCATCGGAGACCGCAACAAGGTCAGCCGATCCTGCTGACCAGTGGCAAGCTGTATTACGA
GCTGGCCGCCCGCAAGGCCAAGGACAACCGCAATGACCTCGCGATCGTGCGGCTTGAACAGCTCGC
CCCGCTGCCAGGCGTCGACTGCGTGAAACGCTGGACCGCTACGAGAACGTC AAGGAGTTCTTCTG
GGTCCAAGAGGAACCGGCCAACCAGGGTGCGTGCGCGGCGATTGCGGCTCGAACTACCCGAGCTGCT
GCCTGACAAGTTGGCCGGGATCAAGCGAATCTCGCGCCGGGCGATGTCAGCCCCGTCGT CAGGCTC
GTCGAAGGTGCACGCCGTCGAACAGCAGGAGATCCTCGACGAGGCGTTGCGCTAATCTAGCAAGA
GGAGAAGTCGACATGAAGTTATTAAAATTGGCACCTGATGTTTATAAATTTGATACTGCAGAGGAGT
TTATGAAATACTTTAAGGTTGGAAAAGGTGACTTTATACTTACTAATGAATTTTTATATAAACCTTCC
TTGAGAAATTC AATGATGGTGCAGATGCTGTATTT CAGGAGAAATATGGACTCGGTGAACCTTCTGA
TGAAATGATAAACAATATAATTAAGGATATTGGAGATAAACAATATAATAGAATTATTGCTGTAGGG
GGAGGATCTGTAATAGATATAGCCAAAATCCTCAGTCTTAAGTATACTGATGATTCATTGGATTTGTT
TGAGGGAAAAGTACCTCTTGTA AAAAACAAGAATTAATTATAGTTCCA ACTACATGTGGAACAGGT
TCAGAAGTTACAAATGTATCAGTTGCAGAATTAAGAGAAGACATACTAAAAAAGGAATTGCTTCA
GACGAATTATATGCAACTTATGCAGTACTTGTACCAGAATTTATAAAAGGACTTCCATATAAGTTTTT
TGTAACCAGCTCCGTAGATGCCTTAATACATGCAACAGAAGCTTATGTATCTCAAATGCAAATCCTT
ATACTGATATGTTTAGTGTA AAAAGCTATGGAGTTAATTTTAAATGGATACATGCAAATGGTAGAGAA
AGGAAATGATTACAGAGTTGAAATAATTGAGGATTTTGTATAGGCAGCAATTATGCAGGTATAGCT
TTTGAAATGCAGGAGTGGGAGCGGTT CACGCACTCTCATATCCAATAGGCGGAAATTATCATGTGC
CTCATGGAGAAGCAAATTATCTGTTTTTACAGAAATATTTAAACTTATTATGAGAAAAATCCAAAT
GGCAAGATTAAAGATGTAATAAACTATTAGCAGGCATACTAAAATGTGATGAAAGTGAAGCTTAT
GACAGTTTATCACAACTTTTAGATAAATTATTGTCAAGAAAACCATTAAGAGAATATGGAATGAAAG
AGGAAGAAATTGAACTTTTGCTGATTCAGTAATAGAAGGACAGCAGAGACTGTTGGTAAACAATT
ATGAACCTTTTTCAAGAGAAGACATAGTAAACACATATAAAAAGTTATATTAATCTAGAAAGCTTCCT
AGAGGCATCAAATAAACGAAAGGCTCAGTCGAAAGACTGGGCCTTCGTTTTATCTGTTGTTTGTC
GGTGAACGCTCTCCTGAGTAGGACAAATCCGCCGCCCTAGACCTA

FIGURE 53 (Cont'd)

**FIG. 54**

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cscR w/5' del
>XX

SENSE_PRM

1 TCTGTATCAG GCTGAAATC TTCTCTCATC CGCCAAAACA GCTTCGGCGT TAAGTTGGGC GCTCAAGSAC GTAAGCCGTC GACTCTCGCC GTGCTGGCGC
AGACATAGTC CGACTTTTAG AAGAGAGTAG GCGGTTTTGT CGAAGCCGCA ATTCTACGCG CGAGTTCTTG CATTCGGCAG CTGAGAGCGG CACGACCGCG
cscR w/5' del

101 AGGACACGGC TACCCTCCT TTCTCTGTTG ATATCTCTCT TGCATTGAG CAACCCGCCA GCGAGTTGCG CTGGAATAGT TTTTAAATCA ATATTTTTC
TCCTGTGCGG ATGGTGAGGA AAGAGACAAC TATAGACGA ACGGTAATCT GTTGGCGGT CGCTCAAGCC GACCTTATCA AAAAATTAGT TATAAAAAG
cscR w/5' del

201 TGAAGATGAC GCTGCCCGCG CGGACAGTCA GCTGCTGCC CACCGTCGG ATGGCAATTAT CTATACTACA ATGGGGCTGC GACATATCAC GCTGCGTGAG
ACTTCTACTG CGACGGGCGC GCGGTGCACT CGACGAACGG GTGGCAGGCC TACCGTAATA GATATGATGT TACCCCGAGC CTGTATAGTG CGACGGACTC
cscR w/5' del

301 TCTCTGTATG GTGAAATAT TGTATTGGCG AACTGTGTTG CGGATGACCC AGCGTTACCC AGTTATATCC CTGATGATTA CACTGCACAA TATGAATCA
AGAGACATAC CACTTTTATA ACATAACCGC TTGACACACC GCCTACTGGG TCGCAATGGG TCAATATAGG GACTACTAAT GTGACGTGTT ATACTTAGTT
cscR w/5' del

401 CACAGCATTT GCTCGCGGCG GGCTATCGTC AACCGTTATG CTTCTGGCTA CGGAAAGTG CGTTGGCAAC AGGGTATCGT CGGCAGGGAT TTGAGCAGGC
GTGCTGTAAA CGAGCGCGC CGATAGCAG TTGGCAATAC GAAGACCGAT GGCTTTTCAC GCAACCGTTG TCCCATAGCA GCGCTCCCTA AACTCGTCCG
cscR w/5' del

501 CTGGCGTGAT GCTGGAGGAG ATCTGGCTGA GGTGAAACAA TTTCACATGG CAACAGGTGA TGATCACTAC ACCGATCTCG CAAGTTTACT CAATGCCAC
GACCGCACTA CGACCTGCTC TAGACCGACT CCACITTTGT AAAGTGATAC GTTGCTCACT ACTAGTGATG TGGCTAGAGC GTTCAAATGA GTTACGGGTG
cscR w/5' del

601 TTCAAACCGG GCAACCCAGA TTTTGATGTT CTGATATGTE GTAACGATCG CGCAGCCTTT GTGGCTTATC AGGTTCTTCT GCGGAAGGGG GTACGATCC
AAGTTTGGCC CGTTTGSTCT AAACTACAA GACTATACAC CATTCCTAGC GCGTCGGAAG CACCGAATAG TCCAAGAAGA CCGCTTCCCC CATGCTTAGG
cscR w/5' del

701 CGCAGGATGT CGCGTAATG GCGTTTGAAT ATCTGGTGG CGTGCGGCT CTGTTTTTAC CGCCGCTGAC CACAATTCAG CTCCACATG ACATTATCGG
GCGTCTTACA GCGGCATTAC CGAAACTAT TAGACCAACC GCAGCCCGTA GACAAATATG GCGGCGACTG GTGTTAAGTC GAAGGTGTAC TGTAAATAGCC
cscR w/5' del

801 GCGGGAAGCT GCATTGCATA TTATTGAAGG TCGTGAAGGG GGAAGAGTGA CGCGGATCCC TTGCCCGCTG TTGATCCGTT GTTCCACCTG ATATTATGTT
CGCCCTTCCA CGTAACGTAT AATAACTTCC AGCACTTCCC CTTCTCACT GCGCTTAGGG AACGGGCGAC AACTAGGCAA CAAGGTGGAC TATAATACAA
cscA

901 AACCCAGTAG CCAGAGTGCT CCATGTTGCA GCACAGCCAC TCCGTGGGAG GCATAAAGCG ACAGTTCCCG TTCTTCTGGC TGGCGATAGA TTGACTACT
TTGGGTCAIC GGTCTCAGGA GGTACACGT CGTGTCGGTG AGGCACCTC CGTATTTGCG TGTCAAGGGC AAGAAGACCG ACGCCTATCT AAGCTGATGA
cscA

1001 CATCACCGCT TCCCGTCTGT TAATAAATAC TTCCACGGAT GATGATCGA TAAATATCT TAGGGCGAGC GTGTACGCT GCGGGAGGGG AATACTACGG
GTAGTGGCGA AGGGGACGCA ATTATTTATG AAGGTGCCA CTACATAGCT ATTTATAGGA ATCCGCTCG CACAGTGCGA CGCCCTCCCC TTATGATGCC

FIG. 55

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cscA

1101 TAGCCGTCTA AATTCTCGTG TGGTAATAC CGCCACAAA CAAGTCGGTC AGATTGGTTA TCAATATACA GCGGCATTCC AGTCCGAGC TGTAAATCCGT
ATCGGCAGAT TTAAGAGCAC ACCATTATG GCGGTGTTTT GTTCAGCGAG TCTAACCAAT AGTTATATGT CCGCGTAAGG TCACGGCTCG ACATTAGGCA

cscA

1201 AATGTTGGC ATCACTGTTT TTCAGCGCCC ACTGCAACTG AATCTCAACT GCTTGGCGT TTTCTGCAA AACATAITTA TTGCTGATTG TCGGGGAGA
TTACAAGCCG TAGTGACAG AAGTCGCGG TGACGTTGAC TTAGAGTTGA CGAACGCGCA AAAGGACGTT TTGTATAAAT AACGACTAAC ACGCCCTCT

cscA

1301 GACAGATTGA TGCTGCTGC GTAACGACTC AGCTTCGTGT ACCGGGCGTT GTAGAAGTTT GCCATTGCTC TCTGATAGCT CCGCGGOCAG CGTCATGCAG
CTGTCTAATC ACGACGACCG CATGTCTGAG TCGAAGCACA TGCCCGGCAA CATCTTCAA CCGTAACGAG AGACTATCGA GCGCGGCTC GCAGTACGTC

cscA

1401 CCTGCCCATC CTTACGTTT TGAGGGCATT GCGGATTCCC ACATATCCAT CCAGCCGATA ACAATACGCC GACCATCCTT CGCTAAAAAG CTTGTGGTG
GGACGGGTAG GAAGTGCAA ACTCCCGTAA CCGTAAGGG TGTATAGGTA GGTCCGCTAT TGTATGCGG CTGGTAGGAA GCGATTTTTT GAAACACCAC

cscA

1501 CATAAAGTC ATGCCGGTTA TCAAGTTCAG TAAATGCCG GGATTGTGCA AAAAGTCGTG CTGGCGACCA CATTCCGGGT ATTACGCCAC TTTGAAAGCG
GTATTTTCAG TACGGGCAAT AGTTCAAGTC ATTTACGGG CCTAACAGT TTTTCAGCAG GACCGCTGTT GTAGGCCCA TAATCCGGTG AAACITTCGC

cscA

1601 ATTTCCGTAA CTGTATCCCT CGGCATTCTT TCCCTGCGG GAAACATCA GATAATGCTG ATCCGCAAG CTGAAAAAGT CCGGACATTC CCACATATAG
TAAGGCCATT GACATAGGA GCGTAAGTA AGGACGCCC CTTTGTAGT CTATTACGAC TAGCGGTTC GACTTTTCA GGCCTGTAG GGTGTATATC

cscA

1701 CTTTACCCG CATCAGCTG GGCAGTACG CGATCGAAG TCCATTCAAG CAACGAACTG CCGGATAAA GCAGGATCTG CCGCTGTG CCGATCTT
GAAAGTGGC GTAGTGCAC CCGTCATGC GCTAGCTTC AGGTAAGTGC GTTCTTGAC GCGCTATT CTCTTAGAC GCGGCACAC GCACCTAGAA

cscA

1801 TCGCCCCGAC TACCATCCAC CATGTGTCG CTTACGCCA CATTTAGGA TCGCGGAAGT GCATGATTCC TTCTGGTGA GTGAGGATCA CACCTGTTT
AGCGGGCTG ATGCTAGGTG GTACACGCC GAGTGGCGT GTGAAATCCT AGCGCTTCA CGTACTAAGG AAGACCACCT CACTCCTAGT GTGGGACAAA

cscA

1901 CTCGAAATGA ATACCATCC GACTGCTAGC CAGACATTGT ACTTCGCGAA TTGCATCGTC ATTACCTGCA CCATCGAGCC AGACGTGTCC GGTGTAGATA
GAGCTTTACT TATGCTAGGG CTGACCATCG GTCTGTAACA TGAAGCGTT AACGTAGCAG TAATGGACGT GTAGCTCGG TCTGCACAGG CCACATCTAT

cscA

2001 AGTGAGAGGA CACCATGTC ATGACAGCA CTACCTGAAA AACACCCGTC TTTGTCAITA TGTCTCTG GCGCTAGCGC AATAGGCTCA TGCTGCCAGT
TCACTCTCCT GTGGTAACAG TAGCTGTCTG GATGGACTTT TTGTGGGCG AAACAGTAAT AGCAGAGGAC CCGATCGCG TTATCGAGT ACGACGCTCA

cscA

2101 GGATCATATC GTCCGTGCTG GCATGTCCC AGTCATTGG CCCCAGTGT TCGTCACTG GATGATGTTG ATAAAACGG TGATAACGAT CGTTAAACCA
CCTAGTATAG CAGGACCCAC CGTACAGGG TCAAGTAACC GGGGTCACA AGCGAGTAGC CTACTACAAC TATTTTGCGC ACTATTGCTA GCANTTGGT

cscA

FIG. 55 (cont'd)

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2201 GATCAGGCGG TTGTGATCGT TCATCCACCC GGCAGGAGCG GCGAGGTGAA AATGGGGATA GAAAGTGTTA CCCCCTGCT CATGAACCTT TGCTAGGGCG
CTAGTCCGCG AAACCTAGCA AGTAGGTGGG CCGTCTCCG CGTCCACTT TTACCCCTAT CTTCACAAAT GGGGCCACGA GTACTTCAA ACGATCCCGC
~~~~~  
cscA  
2301 TTTTGGCGCG CATGCAATCG AGATTGCGTC ATTTTAATCA TCCTGGTTAA GCRAATTGG TGAATTGTTA ACCTTAACCT TTATAAAAAA AAGTCCCTT  
AAAACGCGCG GTACGTTAGC TCTAACGCG TAAAATTAGT AGGACCAATT CGTTTAAACC ACTTAACAAT TGCAATTGAA AATATTTTTA TTTCAGGGAA  
~~~~~  
cscA
2401 ACTTTCATAA ATGCGATGAA TATCACAAT GTTAACGTIA ACTATGACCT TTTGTGATCG AATATGCATG TTTAGTAAA TCCATGACGA TTTTGGGAAA
TGAAAGTAAT TACGCTACTT ATAGTGTTTA CAATTGCAAT TGATACTGCA AAACACTAGC TTATACGTAC AAAATCAITT AGGTACTGCT AAAACGCTTT
~~~~~  
cscK  
2501 AAGAGGTTIA TCACTATGCG TAACTCAGAT GAATTTAAGG GAAAAAATG TCAGCCAAAG TATGGGTTTT ASGGGATGCG GTCTAGATC TCTTGCAGA  
TCTTCCAAAT AGTGATAGCG ATTGAGTCTA CTTAANTTCC CTTTTTTTAC AGTCGGTTTC ATACCCAAA TCCCTACGC CAGCATCTAG AGAACGGTCT  
~~~~~  
cscK
2601 ATCAGACGCG CGCCTACTGC CTGTCTCTGG CGGCGCGCCA GCTAACGTTG CGGTGGGAAT CGCCAGATTA GCGGAACAA GTGGTTTAT AGGTGGGCG
TAGTCTGCCC GCGGATGACG GAACAGGACC GCGCGCGGCT CGATTGCAAC GCCACCTTA CGGTCTAAT CCGCCTTGT CACCCAAATA TCCAGCCGAC
~~~~~  
cscK  
2701 GGGGATGATC TTTTGGTGC GTTAATGCAA AGAACGCTGC TAACTGAGGG AGTCGATATC ACGTATCTGA AGCAAGATGA ATGGCACCGG ACATCCACGG  
CCCCIAC TAG AAAACACG CAATTACGTT TCTTGGGACG ATTGACTCCC TCAGCTATAG TGCATAGACT TCGTCTACT TACCGTGGCC TGTAGGTGCC  
~~~~~  
cscK
2801 TGCTTGCTGA TCTGAACGAT CAGGGGAAC GTTCATTTAC GTTATGCTC CCCCCAGTG CCGATCTTT TTTAGAGACG ACAGACTTGC CCGCTGGCG
ACGAACAGCT AGACTTGCTA GTTCCCTTG CAGTAAATG CAATACCAG GCGGGGTCAC GGCTAGAAA AAATCTCTGC TGTCTGAACG GAGGACCGC
~~~~~  
cscK  
2901 ACATGCGGAA TGGTTACATC TCTGTTCAAT TGGTTGTCT GCGAGCCTT CCGTACCAG CGCATTTACT GCGATGACGG CGATCCGCA TCCGGAGGT  
TGTACCGCTT ACCAATGTAG AGACAAGTTA ACGCAACAGA CGGCTCGGAA GCGCATGGTC GGTAAATGA CGTACTGCC GTAGGCGGT ACGGCTCCA  
~~~~~  
cscK
3001 TTTGTAGCT TCGATCTAA TATCGTGAA GATCTATGGC AAGACGAGCA TTTGCTCCG TTTGTTTGC GSCAGGCGCT ACAACTGGCG GATGTGCTCA
AAACAGTCA AGCTAGGATT ATAAGCACT CTAGATACCG TTCTGCTCGT AAACGAGCG AACACAAAG CCGTCCGGA TGTGACCGC CTACAGCAGT
~~~~~  
cscK  
3101 AGCTCTCGGA AGAAGATGG CGACTTATCA GTGAAAAAC ACAGAAGGAT CAGGATATAT GCGCCCTGGC AAAAGAGTAT GAGATGCCA TGCTGTTGGT  
TCGAGAGCCT TCTTCTTACC GCTGAATAGT CACCTTTTTG TGTCTTCTA GTCTATATA CCGGGACCG TTTTCTATA CTCTAGCGGT ACGACAACCA  
~~~~~  
cscK
3201 GACTAAAGGT GCAGAAGGGG TGGTGTCTG TTATCGAGGA CAAGTTCACC ATTTTGTCTG AATGTCTGT AATTGTGTC ATAGCACGGG GCGGGAGAT
CTGATTTCCA CGTCTTCCC ACCACCAGAC AATAGCTCTT GTTCAAGTGG TAAAACGACC TTACAGACAC TTAACACAGC TATCGTCCC CCGCCTCTA
~~~~~  
cscK  
3301 GCGTCTGTG CCGGTTACT CACAGTCTG TCTCTACGG GATTATCTAC AGATGAGAGA GAATGCGAC GAATTATCGA TCTCGCTCA CTTTGGGAG  
CGAAGCAAC GCGCCATGA GTGTCCAGC AGGAGATGCC CTAATAGATG TCTACTCTCT CTTTACGCTG CTTAATAGCT AGAGCGATT GCAACGCTC  
~~~~~  
cscK

FIG. 55 (cont'd)

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3401 CGCTTGCACT AACGGCGAAA GGGGCAATGA CAGCGTGGC ATGTGACAA GAACTGGAAT AGTCAGAAGT AAACGGCGAA GTCGCTCTTA TCCTARATA
GCGAACGTCA TTCCCGCTTT CCCCGTACT GTGCGACGG TACAGCTGTT CTGACCTTA TCACTCTTCA TTGCGCGCT CAGCGAGAAT AGAGATTTAT
cscB

3501 GGACGTGAAT TTTTAAAGG CAGGCAGGTA ATTATGGCAC TGAATATTC ATTCAGAAAT CGCTACTATC GTTTGCAATC CAGTTACTCA TTTCTCTTT
CCTGCACCTA AAAAATTGCT GTCCGTCCAT TAATACCGTG ACTTATAAGG TAAGTCTTTA CGCATGATAG CAAAACGTAG GTCAATGAGT AAAGAGAAAA
cscB

3601 TTATTTCCTG GTGCTGTGG TGGTCTTAT ACGCTATTTG GCTGAAAGGA CATCTAGGGT TGACAGGAC GGAATTAGT ACACTTTAT CGGTCAACCA
AATAAGGAC CAGCGACACC ACCAGCAATA TGGATAAAC CGACTTCTCT GTAGATCCCA ACTGTCCCTG CCTTAATCCA TGTGAATAA GCCAGTTGGT
cscB

3701 GTTTACCAGC ATTCTATTTA TGATGTTCTA CGGCATCGTT CAGCATAAAC TGGTCTGAA GAAACCGCTC ATCTGCTGTA TGAGTTTCAT CCTGCTCTG
CAATGTGTCG TAAGATAAAT ACTACAAGAT GCGTAGCAA GTCTATTTG AGCCAGACTT CTTGGCGAG TAGACCACAT ACTCAAAGTA GGACCAGAAC
cscB

3801 ACCCGACCTT TTATGATTTA CGTTATGAA CCGTACTGC AAAGCAATTT TTCTGTAGGT CTAATTCCTG GGGCGCTATT TTTGGCTTG GGTATCTGG
TGGCTGGCA AATACTAAT GCAATACTT GGCATGACG TTTGTTAAA AAGACATCCA GATTAAGACC CCGCGATAA AAAACCGAAC CCCATAGACC
cscB

3901 CGGGATGCGG TTGCTTGAT AGCTTCACCG AAAAAATGGC GCGAATTTT CATTTCGAAT ATGGAACAGC GCGCGCTGG GGTCTTTTG GCTATGCTAT
GCCCTACGCC AAACGAATA TCGAAGTGGC TTTTTCACG CGCTTTAAA GTAAAGCTTA TACCTTGTCG CGGCGCGACC CCGAAGAAC CGATACGATA
cscB

4001 TGGCGGCTT TTGCGCGCA TATTTTTAG TATCAGTCCC CATATCAACT TCTGTTGGT CTCGCTATT GCGCTGTAT TTATGATGAT CAACATCGGT
ACCGCGAAG AAACGGCGT ATAAAAATC ATAGTCAGGG GTATAGTTGA AGACCAACCA GAGCGATAA CCGCGACATA AATACTACTA GTTGTACGCA
cscB

4101 TTAAAGATA AGGATCACCA GTGCTAGCG GCAGATGCGG GAGGGTAAA AAAAGAGAT TTTATCGCAG TTTCAAGGA TCGAACTTC TGGGTTTTG
AAATTTCTAT TCTAGTGGT CAGCATCGC GGTCTACGC CTCCCATTT TTTCTCTTA AAATAGCTC AAAAGTTCT AGCTTTGAG ACCCAAAGC
cscB

4201 TCAATTTAT TGTGGGACG TGGTCTTCT ATAACATTTT TGATCAACAA CTTTTCTCTG TCTTTTATC AGGTTTATC GAATCACAG ATGTAGGAAC
AGTATAATA ACACCCCTGC ACCAGAAAG TATTGTAAA ACTAGTTGTT GAAAAAGGAC AGAAATAAG TCCAAATAAG CTTAGTGTGC TACATCCTG
cscB

4301 GCGCTGTAT GGTATCTCA ACTCATCCA GGTGGTACTC GAAGCGCTGT GCATGGCGAT TATTCCTTTT TTTGTGAATC GGTAGGCCC AAAAAATGCA
CGCGACATA CCATAGAGT TGAGTAAGT CCACATGAG CTTGCGGACA GTACCGCTA ATAGGAAAG AAACACTTAG CCATCCCGG TTTTTCAGT
cscB

4401 TTACTTATCG GAGTTGTGAT TATGGCGTTG GTATCTCTT CCTGCGGCT GTTCGTTAAC CCTGTGATTA TTTCTATGTA GAAGTTGTA CATGCCATT
AATGAATAG CTCACACTA ATACCGCAAC GCATAGGAAA GAGCGCGCA CAGCAATTG GGGACCTAAT AAGTAATCA CTTCAACAAT GTACGTAAC
cscB

4501 AGGTTCCACT TTGCTCATA TCCGCTTCA AATACAGCGT GGCAAACTTT GATAAGCGCC TGTGCTGAC GATCTTCTG ATTGGTTTTT AAATGGCAG
TCCAGGTGA AACACAGTAT AGGCAGAAGT TTATGTGCA CCGTTGAAA CTATTGCGG ACAGCAGCTG CTAGAAAGAC TAACCAAAAG TTTAACGGT
cscB

FIG. 55 (cont'd)

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4601 TTGCTTGGG ATTGTGCTGC TTTCACGCC GACTGGGATA CTCTTGACC ACGCAGGCTA CCAGACAGTT TTCTGCGAA TTTCGGTAT TGTCTGCCTG
AAGCGAACC TAACACGACG AAAGTTGGG CTGACCTAT GAGAACTGG TCGTCCGAT GGTCTGTCAA AAGAGCGTT AAAGCCATA ACAGACGGAC
cscB

4701 ATGTTGCTAT TTGGCATTIT CTCTTGAGT AAAAAACGG AGCAATAGT TATGGAAACG CCTGTACCTT CAGCAATATA GACGTAAACT TTTCCGGTT
TACAACGATA AACCGTAAAA GAAGAACTCA TTTTTCGGC TCGTTATCA ATACCTTTGC GGACATGGAA GTGTTTATAT CTGCATTGA AAAAGGCCAA

4801 GTTGTGATA GCTCTATATC CCTCAACGG AAAATAATA TAGTAAATG CTTAGCCCTG CTAATAATCG CCTAATCAA ACGCCTCAT CATGTTCTGG
CAACAGCTAT CGAGATATAG GGAGTTGGCC TTTTATATT ATCATTTTAC GAATCGGAC GATTATTAGC GGATTAGGT TCGGGAGTAA GTACAAGACC

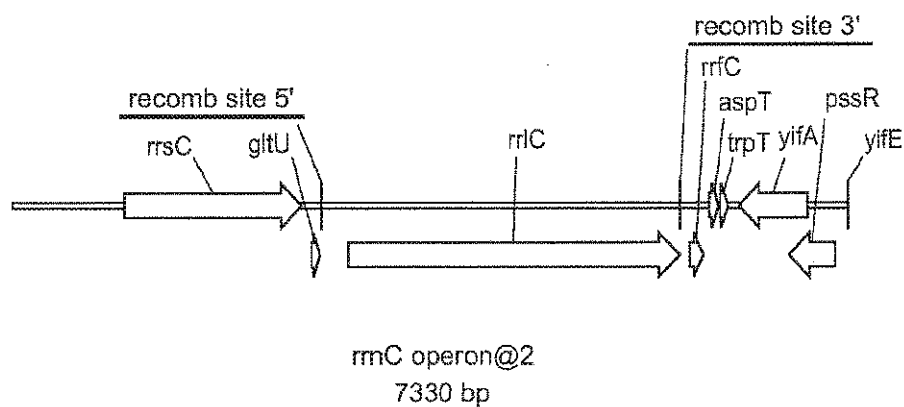
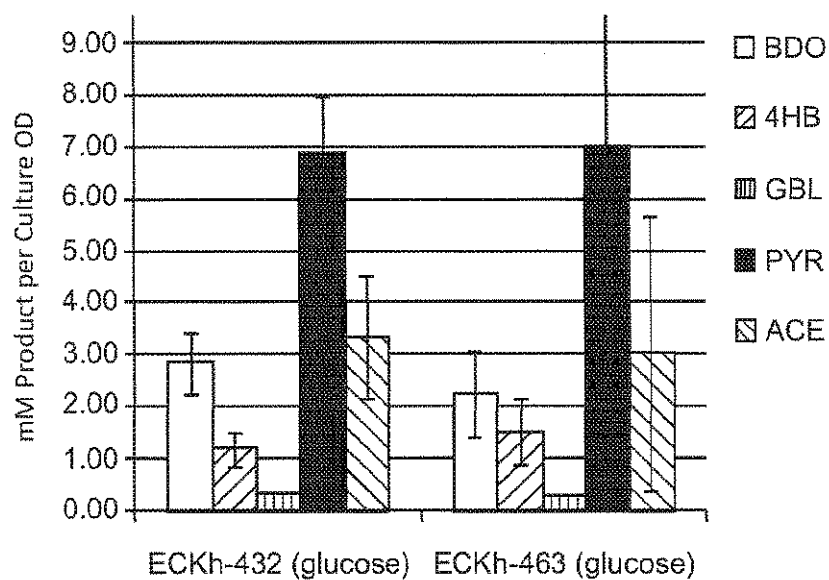
4901 TACAGTCGCT CAAATGTACT TCAGATGCGC GGTTCGCTGA TTCCAGGAC ATTGTCGTCA TTCAGTGACC TGTCCGTTGT ATCAGGTCC TCGGAATTCA
ATGTCAGCGA GTTTACATGA AGTCTACGG CCAAGCGACT AAAGTCTCG TAACAGCAGT AAGTCACTGG ACAGGGCACA TAGTCCAGG ACGCTTAAGT

5001 TCAAGGAATG CATTGCGGAG TGAAGTATCG AGTCACGCCA TATTTCTGCA CCCGAAGATG AGTTTGTAGA TATTAAGGCA GGTGACTTC ACTCACA
AGTTCTTAC GTACGCCTC ACTTCATAGC TCAGTGGGT ATAAAGCAGT GGGCTTCTAC TCAAACTCT ATAAATCCGT CCACTGAAAG TGAGTGT

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FIG. 55 (cont'd)

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**FIG. 56****FIG. 57**