KLK3 (GC)-muag-A64-C30 = PSA

GGGAGAAAGCUUACC**AUG**UGGGUGCCGGUCGUGUUCCUGACCCUCAGCGUGACGUGGAUCGGCGCCGCGCCC
CUGAUCCUGUCGCGGAUCGUGGGGGGCUGGGAGUGCGAGAAGCACAGCCAGCCCUGGCAGGUGCUGGUGGCC
AGCCGCGGCCGGGCCGUGUGCGGCGGCGUGCUGGUGCACCCCCAGUGGGUGCUGACCGCCGCCCACUGCAUC
CGGAACAAGAGCGUCAUCCUGCUGGGCCGGCACAGCCUGUUCCACCCCGAGGACACCGGCCAGGUGUUCCAG
GUGAGCCACAGCUUCCCCCACCCCCUGUACGACAUGAGCCUCCUGAAGAACCGGUUCCUGCGGCCCGGCGAC
GACAGCAGCCACGACCUGAUGCUGCUGCGGCUGAGCGAGCCCGCCGAGCUGACCGACGCCGUGAAGGUGAUG
GACCUGCCGACCCAGGAGCCCGCCCUGGGCACCACCUGCUACGCCAGCGGCUGGGGGAGCAUCGAGCCCGAG
GAGUUCCUCACCCCCAAGAAGCUGCAGUGCGUGGACCUGCACGUGAUCAGCAACGACGUGUGCGCCCAGGUG
CACCCCCAGAAGGUGACCAAGUUCAUGCUGUGCGCCGGCCGGUGGACCGGCGGCAAGAGCACCUGCAGCGGC
GACAGCGGCGGCCCCCUGGUCUGCAACGGCGUGCUGCAGGGCAUCACCAGCUGGGGCAGCGAGCCCUGCGCC
CUGCCCGAGCGCCCCAGCCUGUACACCAAGGUGGUGCACUACCGGAAGUGGAUCAAGGACACCAUCGUGGCC
AACCCG**UGA**CCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGCCCUCCUCCCCCUCCUUGCA
CCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAUAUUCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAGACAAUUGGAAUU

Fig. 1

CDS KLK3 (wt) = PSA

AUGUGGGUCCCGGUUGUCUUCCUCACCCUGUCCGUGACGUGGAUUGGUGCUGCACCCCUCAUCCUGUCUCGG
AUUGUGGGAGGCUGGGAGUGCGAGAAGCAUUCCCAACCCUGGCAGGUGCUUGUGGCCUCUCGUGGCAGGGCA
GUCUGCGGCGGUGUUCUGGUGCACCCCCAGUGGGUCCUCACAGCUGCCCACUGCAUCAGGAACAAAAGCGUG
AUCUUGCUGGGUCGGCACAGCCUGUUUCAUCCUGAAGACACAGGCCAGGUAUUUCAGGUCAGCCACAGCUUC
CCACACCCGCUCUACGAUAUGAGCCUCCUGAAGAAUCGAUUCCUCAGGCCAGGUGAUGACUCCAGCCACGAC
CUCAUGCUGCUCCGCCUGUCAGAGCCUGCCGAGCUCACGGAUGCUGUGAAGGUCAUGGACCUGCCCACCCAG
GAGCCAGCACUGGGGACCACCUGCUACGCCUCAGGCUGGGGCAGCAUUGAACCAGAGGAGUUCUUGACCCCA
AAGAAACUUCAGUGUGUGGACCUCCAUGUUAUUUCCAAUGACGUGUGUGCGCAAGUUCACCCUCAGAAGGUG
ACCAAGUUCAUGCUGUGUGCUGGACGCUGGACAGGGGGCAAAAGCACCUGCUCGGGUGAUUCUGGGGGCCCA
CUUGUCUGUAAUGGUGUGCUUCAAGGUAUCACGUCAUGGGGCAGUGAACCAUGUGCCCUGCCCGAAAGGCCU
UCCCUGUACACCAAGGUGGUGCAUUACCGGAAGUGGAUCAAGGACACCAUCGUGGCCAACCCCUGA

Fig. 2

CDS KLK3 (GC) = PSA

AUG UGG GUG CCC GUC GUG UUC CUG ACC CUC AGC GUG ACC UGG AUC GGC GCC GCC
CCG CUG AUC CUG UCC CGG AUC GUC GGG GGC UGG GAG UGC GAG AAG CAC AGC CAG
CCC UGG CAG GUG CUC GUG GCG UCC CGC GGG CGG GCC GUC UGC GGC GGG GUG CUG
GUG CAC CCC CAG UGG GUC CUG ACG GCC GCC CAC UGC AUC CGC AAC AAG AGC GUG
AUC CUC CUG GGC CGG CAC UCC CUG UUC CAC CCC GAG GAC ACC GGC CAG GUG UUC
CAG GUC AGC CAC UCC UUC CCG CAC CCC CUC UAC GAC AUG AGC CUG CUG AAG AAC
CGC UUC CUC CGG CCC GGG GAC GAC UCC AGC CAC GAC CUG AUG CUG CUC CGC CUG
UCC GAG CCC GCC GAG CUG ACC GAC GCG GUG AAG GUG AUG GAC CUC CCG ACC CAG
GAG CCC GCC CUG GGC ACG ACC UGC UAC GCC AGC GGG UGG GGC UCC AUC GAG CCC
GAG GAG UUC CUG ACC CCC AAG AAG CUC CAG UGC GUC GAC CUG CAC GUG AUC AGC
AAC GAC GUG UGC GCC CAG GUC CAC CCG CAG AAG GUG ACC AAG UUC AUG CUG UGC
GCG GGG CGG UGG ACG GGC GGC AAG UCC ACC UGC AGC GGG GAC UCC GGC GGG CCC
CUC GUG UGC AAC GGC GUC CUG CAG GGC AUC ACC AGC UGG GGG UCC GAG CCC UGC
GCC CUG CCC GAG CGC CCG AGC CUC UAC ACC AAG GUG GUG CAC UAC CGG AAG UGG
AUC AAG GAC ACG AUC GUC GCC AAC CCC UGA

Fig. 3

FOLH1 (GC)-muag-A64-C30 = PSMA

GGGAGAAAGCUUACC**AUG**UGGAACCUGCUCCACGAGACCGACAGCGCCGUGGCGACGGCCCGGCGCCCGCGG
UGGCUGUGCGCCGGCGCCCUGGUCCUGGCCGGGGGCUUCUUCCUGCUGGGCUUCCUGUUCGGCUGGUUCAUC
AAGUCGAGCAACGAGGCCACCAACAUCACCCCCAAGCACAACAUGAAGGCCUUCCUCGACGAGCUGAAGGCC
GAGAACAUCAAGAAGUUCCUGUACAACUUCACCCAGAUCCCCCACCUGGCCGGGACCGAGCAGAACUUCCAG
CUGGCCAAGCAGAUCCAGAGCCAGUGGAAGGAGUUCGGCCUGGACUCGGUGGAGCUGGCGCACUACGACGUG
CUGCUCAGCUACCCCAACAAGACCCACCCCAACUACAUCAGCAUCAUCAACGAGGACGGCAACGAGAUCUUC
AACACCAGCCUGUUCGAGCCCCCGCCCCCCGGCUACGAGAACGUGUCGGACAUCGUGCCCCCCUUCAGCGCC
UUCAGCCCGCAGGGCAUGCCCGAGGGGGACCUGGUGUACGUGAACUACGCCCGGACGGAGGACUUCUUCAAG
CUGGAGCGCGACAUGAAGAUCAACUGCAGCGGCAAGAUCGUGAUCGCCCGGUACGGCAAGGUGUUCCGGGGC
AACAAGGUGAAGAACGCCCAGCUGGCCGGGGCCAAGGGCGUGAUCCUGUACUCGGACCCCGCCGACUACUUC
GCCCCCGGCGUGAAGAGCUACCCCGACGGCUGGAACCUGCCCGGCGGGGGCGUCCAGCGCGGCAACAUCCUC
AACCUGAACGGCGCCGGCGACCCGCUGACCCCCGGGUACCCCGCGAACGAGUACGCCUACCGGCGGGGCAUC
GCCGAGGCCGUGGGCCUGCCCAGCAUCCCCGUGCACCCGAUCGGCUACUACGACGCCCAGAAGCUGCUGGAG
AAGAUGGGCGGGAGCGCCCCGCCCGACUCGAGCUGGCGGGGCAGCCUGAAGGUGCCCUACAACGUGGGCCCC
GGCUUCACCGGGAACUUCUCGACCCAGAAGGUGAAGAUGCACAUCCACAGCACCAACGAGGUGACCCGCAUC
UACAACGUGAUCGGCACCCUGCGGGGCGCCGUGGAGCCCGACCGGUACGUGAUCCUCGGCGGGCACCGCGAC
AGCUGGGUGUUCGGCGGCAUCGACCCCCAGAGCGGCGCCGCCGUGGUCCACGAGAUCGUGCGGUCGUUCGGC
ACCCUGAAGAAGGAGGGGUGGCGGCCCCGCCGGACGAUCCUGUUCGCCAGCUGGGACGCGGAGGAGUUCGGC
CUGCUGGGCAGCACCGAGUGGGCCGAGGAGAACAGCCGGCUGCUGCAGGAGCGGGGCGUGGCCUACAUCAAC
GCCGACUCGAGCAUCGAGGGCAACUACACCCUCCGCGUGGACUGCACCCCGCUGAUGUACAGCCUGGUGCAC
AACCUGACCAAGGAGCUGAAGAGCCCCGACGAGGGGUUCGAGGGCAAGUCGCUGUACGAGAGCUGGACCAAG
AAGAGCCCCUCGCCCGAGUUCAGCGGCAUGCCCCGGAUCAGCAAGCUGGGCAGCGGGAACGACUUCGAGGUG
UUCUUCCAGCGGCUGGGCAUCGCCUCGGGCCGCGCCCGGUACACCAAGAACUGGGAGACGAACAAGUUCAGC
GGCUACCCCCCUCUACCACAGCGUGUACGAGACCUACGAGCUGGUGGAGAAGUUCUACGACCCCAUGUUCAAG
UACCACCUGACCGUGGCCCAGGUGCGGGGCGGGAUGGUGUUCGAGCUGGCCAACAGCAUCGUGCUGCCCUUC
GACUGCCGCGACUACGCCGUCGUGCUGCGGAAGUACGCCGACAAGAUCUACUCGAUCAGCAUGAAGCACCCC
CAGGAGAUGAAGACCUACAGCGUGAGCUUCGACUCGCUGUUCAGCGCGGUGAAGAACUUCACCGAGAUCGCC
AGCAAGUUCUCGGAGCGGCUCCAGGACUUCGACAAGAGCAACCCGAUCGUGCUGCGCAUGAUGAACGACCAG
CUGAUGUUCCUGGAGCGGGCCUUCAUCGACCCCCUGGGCCUGCCCGACCGGCCCUUCUACCGGCACGUGAUC
UACGCCCCCAGCAGCCACAACAAGUACGCCGGCGAGUCGUUCCCGGGGAUCUACGACGCCCUGUUCGACAUC
GAGAGCAAGGUGGACCCCAGCAAGGCCUGGGGCGAGGUGAAGCGCCAGAUCUACGUGGCCGCCUUCACCGUG
CAGGCCGCGGCCGAGACCCUGAGCGAGGUGGCC**UGA**CCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUC
CCAACGGGCCCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAUAUUCCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAGACA
AUUGGAAUU

Fig. 4

CDS FOLH1 (wt) = PSMA

AUGUGGAAUCUCCUUCACGAAACCGACUCGGCUGUGGCCACCGCGCGCCGCCCGCGCUGGCUGUGCGCUGGG
GCGCUGGUGCUGGCGGGGUGGCUUCUUUCUCCUCGGCUUCCUCUUCGGGUGGUUUAUAAAAUCCUCCAAUGAA
GCUACUAACAUUACUCCAAAGCAUAAUAUGAAAGCAUUUUUGGAUGAAUUGAAAGCUGAGAACAUCAAGAAG
UUCUUAUAUAAUUUUACACAGAUACCACAUUUAGCAGGAACAGAACAAAACUUUCAGCUUGCAAAGCAAAUU
CAAUCCCAGUGGAAAGAAUUUGGCCUGGAUUCUGUUGAGCUAGCACAUUAUGAUGUCCUGUUGUCCUACCCA
AAUAAGACUCAUCCCAACUACAUCUCAAUAAUUAAUGAAGAUGGAAAUGAGAUUUUCAACACAUCAUUAUUU
GAACCACCUCCUCCAGGAUAUGAAAAUGUUUCGGAUAUUGUACCACCUUUCAGUGCUUUCUCUCCUCAAGGA
AUGCCAGAGGGCGAUCUAGUGUAUGUUAACUAUGCACGAACUGAAGACUUCUUUAAAUUGGAACGGGACAUG
AAAAUCAAUUGCUCUGGGAAAAUUGUAAUUGCCAGAUAUGGGAAAGUUUUCAGAGGAAAUAAGGUUAAAAAU
GCCCAGCUGGCAGGGGCCAAAGGAGUCAUUCUCUACUCCGACCCUGCUGACUACUUUGCUCCUGGGGUGAAG
UCCUAUCCAGAUGGUUGGAAUCUUCCUGGAGGUGGUGUCCAGCGUGGAAAUAUCCUAAAUCUGAAUGGUGCA
GGAGACCCUCUCACACCAGGUUACCCAGCAAAUGAAUAUGCUUAUAGGCGUGGAAUUGCAGAGGCUGUUGGU
CUUCCAAGUAUUCCUGUUCAUCCAAUUGGAUACUAUGAUGCACAGAAGCUCCUAGAAAAAAUGGGUGGCUCA
GCACCACCAGAUAGCAGCUGGAGAGGAAGUCUCAAAGUGCCCUACAAUGUUGGACCUGGCUUUACUGGAAAC
UUUUCUACACAAAAAGUCAAGAUGCACAUCCACUCUACCAAUGAAGUGACAAGAAUUUACAAUGUGAUAGGU
ACUCUCAGAGGAGCAGUGGAACCAGACAGAUAUGUCAUUCUGGGAGGUCACCGGGACUCAUGGGUGUUUGGU
GGUAUUGACCCUCAGAGUGGAGCAGCUGUUGUUCAUGAAAUUGUGAGGAGCUUUGGAACACUGAAAAAGGAA
GGGUGGAGACCUAGAAGAACAAUUUUGUUUGCAAGCUGGGAUGCAGAAGAAUUUGGUCUUCUUGGUUCUACU
GAGUGGGCAGAGGAGAAUUCAAGACUCCUUCAAGAGCGUGGCGUGGCUUAUAUUAAUGCUGACUCAUCUAUA
GAAGGAAACUACACUCUGAGAGUUGAUUGUACACCGCUGAUGUACAGCUUGGUACACAACCUAACAAAAGAG
CUGAAAAGCCCUGAUGAAGGCUUUGAAGGCAAAUCUCUUUAUGAAAGUUGGACUAAAAAAAGUCCUUCCCCA
GAGUUCAGUGGCAUGCCCAGGAUAAGCAAAUUGGGAUCUGGAAAUGAUUUUGAGGUGUUCUUCCAACGACUU
GGAAUUGCUUCAGGCAGAGCACGGUAUACUAAAAAUUGGGAAACAAACAAAUUCAGCGGCUAUCCACUGUAU
CACAGUGUCUAUGAAACAUAUGAGUUGGUGGAAAAGUUUUAUGAUCCAAUGUUUAAAUAUCACCUCACUGUG
GCCCAGGUUCGAGGAGGGAUGGUGUUUGAGCUAGCCAAUUCCAUAGUGCUCCCUUUUGAUUGUCGAGAUUAU
GCUGUAGUUUUAAGAAAGUAUGCUGACAAAAUCUACAGUAUUUCUAUGAAACAUCCACAGGAAAUGAAGACA
UACAGUGUAUCAUUUGAUUCACUUUUUUCUGCAGUAAAGAAUUUUACAGAAAUUGCUUCCAAGUUCAGUGAG
AGACUCCAGGACUUUGACAAAAGCAACCCAAUAGUAUUAAGAAUGAUGAAUGAUCAACUCAUGUUUCUGGAA
AGAGCAUUUAUUGAUCCAUUAGGGUUACCAGACAGGCCUUUUUAUAGGCAUGUCAUCUAUGCUCCAAGCAGC
CACAACAAGUAUGCAGGGGAGUCAUUCCCAGGAAUUUAUGAUGCUCUGUUUGAUAUUGAAAGCAAAGUGGAC
CCUUCCAAGGCCUGGGGAGAAGUGAAGAGACAGAUUUAUGUUGCAGCCUUCACAGUGCAGGCAGCUGCAGAG
ACUUUGAGUGAAGUAGCCUAA

Fig. 5

CDS FOLH1 (GC) = PSMA

AUG UGG AAC CUG CUC CAC GAG ACC GAC AGC GCC GUG GCC ACC GCG CGG CGC CCC
CGG UGG CUG UGC GCC GGC GCC CUG GUC CUC GCC GGG GGC UUC UUC CUG CUG GGG
UUC CUC UUC GGC UGG UUC AUC AAG UCC AGC AAC GAG GCC ACG AAC AUC ACC CCG
AAG CAC AAC AUG AAG GCG UUC CUG GAC GAG CUG AAG GCC GAG AAC AUC AAG AAG
UUC CUC UAC AAC UUC ACC CAG AUC CCC CAC CUG GCC GGG ACC GAG CAG AAC UUC
CAG CUG GCC AAG CAG AUC CAG UCC CAG UGG AAG GAG UUC GGC CUC GAC AGC GUG
GAG CUG GCG CAC UAC GAC GUG CUG CUC UCC UAC CCC AAC AAG ACG CAC CCC AAC
UAC AUC AGC AUC AUC AAC GAG GAC GGC AAC GAG AUC UUC AAC ACC UCC CUG UUC
GAG CCG CCC CCC CCC GGG UAC GAG AAC GUC AGC GAC AUC GUG CCG CCC UUC UCC
GCC UUC AGC CCC CAG GGC AUG CCC GAG GGG GAC CUG GUG UAC GUC AAC UAC GCC
CGC ACC GAG GAC UUC UUC AAG CUC GAG CGG GAC AUG AAG AUC AAC UGC UCC GGC
AAG AUC GUG AUC GCC CGC UAC GGG AAG GUG UUC CGG GGC AAC AAG GUC AAG AAC
GCC CAG CUG GCG GGC GCC AAG GGG GUG AUC CUG UAC AGC GAC CCG GCC GAC UAC
UUC GCC CCC GGC GUG AAG UCC UAC CCC GAC GGG UGG AAC CUC CCC GGC GGC GGG
GUC CAG CGC GGC AAC AUC CUG AAC CUG AAC GGG GCC GGC GAC CCG CUC ACC CCC
GGG UAC CCC GCG AAC GAG UAC GCC UAC CGG CGC GGC AUC GCC GAG GCC GUG GGC
CUG CCC AGC AUC CCG GUG CAC CCC AUC GGG UAC UAC GAC GCC CAG AAG CUG CUC
GAG AAG AUG GGC GGG UCC GCG CCC CCC GAC AGC UCC UGG CGG GGC AGC CUG AAG
GUC CCG UAC AAC GUG GGG CCC GGC UUC ACG GGC AAC UUC UCC ACC CAG AAG GUG
AAG AUG CAC AUC CAC AGC ACC AAC GAG GUC ACC CGC AUC UAC AAC GUG AUC GGG
ACG CUG CGG GGC GCC GUG GAG CCC GAC CGC UAC GUC AUC CUC GGG GGC CAC CGG
GAC AGC UGG GUG UUC GGG GGC AUC GAC CCC CAG UCC GGC GCC GCC GUG GUC CAC
GAG AUC GUG CGC AGC UUC GGG ACC CUG AAG AAG GAG GGC UGG CGG CCG CGC CGG
ACC AUC CUG UUC GCC UCC UGG GAC GCG GAG GAG UUC GGG CUC CUG GGC AGC ACC
GAG UGG GCC GAG GAG AAC UCC CGC CUG CUC CAG GAG CGG GGC GUC GCC UAC AUC
AAC GCC GAC AGC UCC AUC GAG GGG AAC UAC ACG CUG CGC GUG GAC UGC ACC CCG
CUG AUG UAC AGC CUC GUG CAC AAC CUG ACC AAG GAG CUG AAG UCC CCC GAC GAG
GGC UUC GAG GGG AAG AGC CUC UAC GAG UCC UGG ACC AAG AAG AGC CCG UCC CCC
GAG UUC AGC GGC AUG CCC CGG AUC UCC AAG CUG GGG AGC GGC AAC GAC UUC GAG
GUC UUC UUC CAG CGG CUG GGC AUC GCG UCC GGG CGC GCC CGG UAC ACG AAG AAC
UGG GAG ACC AAC AAG UUC AGC GGC UAC CCC CUC UAC CAC UCC GUG UAC GAG ACC
UAC GAG CUG GUG GAG AAG UUC UAC GAC CCG AUG UUC AAG UAC CAC CUG ACC GUC
GCC CAG GUG CGC GGG GGC AUG GUG UUC GAG CUG GCC AAC AGC AUC GUC CUC CCC
UUC GAC UGC CGG GAC UAC GCC GUG GUG CUG CGC AAG UAC GCG GAC AAG AUC UAC
AGC AUC UCC AUG AAG CAC CCC CAG GAG AUG AAG ACG UAC AGC GUC UCC UUC GAC
AGC CUG UUC UCC GCC GUG AAG AAC UUC ACC GAG AUC GCC AGC AAG UUC UCC GAG
CGG CUC CAG GAC UUC GAC AAG AGC AAC CCC AUC GUG CUG CGC AUG AUG AAC GAC
CAG CUG AUG UUC CUC GAG CGG GCC UUC AUC GAC CCG CUG GGG CUG CCC GAC CGC
CCC UUC UAC CGG CAC GUC AUC UAC GCC CCC UCC AGC CAC AAC AAG UAC GCG GGC
GAG UCC UUC CCG GGG AUC UAC GAC GCC CUC UUC GAC AUC GAG AGC AAG GUG GAC
CCC UCC AAG GCC UGG GGC GAG GUG AAG CGC CAG AUC UAC GUC GCC GCC UUC ACC
GUG CAG GCG GCC GCC GAG ACC CUG AGC GAG GUG GCC UGA

Fig. 6

PSCA (GC)-muag-A64-C30

GGGAGAAAGCUUACC**AUG**AAGGCCGUGCUGCUCGCGCUGCUGAUGGCCGGCCUGGCCCUGCAGCCGGGGACC
GCCCUGCUGUGCUACAGCUGCAAGGCCCAGGUCUCGAACGAGGACUGCCUGCAGGUGGAGAACUGCACGCAG
CUGGGCGAGCAGUGCUGGACCGCCCGGAUCCGCGCCGUGGGCCUGCUCACCGUGAUCAGCAAGGGCUGCAGC
CUGAACUGCGUGGACGACAGCCAGGACUACUACGUGGGCAAGAAGAACAUCACCUGCUGCGACACCGACCUG
UGCAACGCCAGCGGCGCCCACGCCCUGCAGCCCGCGGCCGCCAUCCUGGCCCUGCUGCCCGCCCUGGGCCUG
CUGCUCUGGGGCCCCGGCCAGCUG**UGA**CCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGC
CCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAUAUUCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAGACAAUUGGAAUU

Fig. 7

CDS PSCA (wt)

AUGAAGGCUGUGCUGCUUGCCCUGUUGAUGGCAGGCUUGGCCCUGCAGCCAGGCACUGCCCUGCUGUGCUAC
UCCUGCAAAGCCCAGGUGAGCAACGAGGACUGCCUGCAGGUGGAGAACUGCACCCAGCUGGGGGAGCAGUGC
UGGACCGCGCGCAUCCGCGCAGUUGGCCUCCUGACCGUCAUCAGCAAAGGCUGCAGCUUGAACUGCGUGGAU
GACUCACAGGACUACUACGUGGGCAAGAAGAACAUCACGUGCUGUGACACCGACUUGUGCAACGCCAGCGGG
GCCCAUGCCCUGCAGCCGGCUGCUGCCAUCCUUGCGCUGCUCCCUGCACUCGGCCUGCUGCUCUGGGGACCC
GGCCAGCUCUAG

Fig. 8

CDS PSCA (GC)

AUG AAG GCC GUG CUG CUC GCC CUG CUG AUG GCG GGC CUC GCC CUG CAG CCC GGG
ACC GCC CUG CUC UGC UAC AGC UGC AAG GCC CAG GUC UCC AAC GAG GAC UGC CUG
CAG GUG GAG AAC UGC ACC CAG CUG GGC GAG CAG UGC UGG ACG GCC CGG AUC CGC
GCG GUG GGG CUC CUG ACC GUC AUC AGC AAG GGC UGC UCC CUG AAC UGC GUG GAC
GAC AGC CAG GAC UAC UAC GUG GGG AAG AAG AAC AUC ACC UGC UGC GAC ACC GAC
CUC UGC AAC GCC UCC GGC GCC CAC GCC CUG CAG CCG GCG GCC GCC AUC CUG GCC
CUC CUG CCC GCC CUG GGC CUC CUG CUG UGG GGG CCC GGC CAG CUC UGA

Fig. 9

STEAP (GC)-muag-A64-C30 = STEAP1

GGGAGAAAGCUUACC**AUG**GAGAGCCGGAAGGACAUCACCAACCAGGAGGAGCUGUGGAAGAUGAAGCCGCGC
CGGAACCUCGAGGAGGACGACUACCUGCACAAGGACACGGGCGAGACCUCGAUGCUGAAGCGGCCCGUGCUC
CUGCACCUGCACCAGACCGCCCACGCGGACGAGUUCGACUGCCCGAGCGAGCUCCAGCACACGCAGGAGCUG
UUCCCGCAGUGGCACCUGCCCAUCAAGAUCGCCGCCAUCAUCGCGAGCCUCACCUUCCUGUACACCCUGCUC
CGCGAGGUCAUCCACCCGCUGGCCACGUCGCACCAGCAGUACUUCUACAAGAUCCCGAUCCUGGUGAUCAAC
AAGGUGCUCCCCAUGGUCAGCAUCACCCUGCUGGCCCUCGUGUACCUGCCGGGGGUGAUCGCGGCCAUCGUC
CAGCUGCACAACGGCACCAAGUACAAGAAGUUCCCGCACUGGCUCGACAAGUGGAUGCUGACGCGGAAGCAG
UUCGGCCUGCUCAGCUUCUUCUUCGCCGUGCUGCACGCGAUCUACUCGCUGAGCUACCCCAUGCGGCGCAGC
UACCGGUACAAGCUCCUGAACUGGGCCUACCAGCAGGUGCAGCAGAACAAGGAGGACGCCUGGAUCGAGCAC
GACGUCUGGCGGAUGGAGAUCUACGUGUCGCUGGGGAUCGUGGGCCUCGCGAUCCUGGCCCUGCUCGCCGUC
ACCAGCAUCCCGAGCGUGUCGGACAGCCUGACCUGGCGCGAGUUCCACUACAUCCAGAGCAAGCUGGGCAUC
GUGUCGCUCCUGCUGGGGACGAUCCACGCGCUCAUCUUCGCCUGGAACAAGUGGAUCGACAUCAAGCAGUUC
GUCUGGUACACCCCGCCCACCUUCAUGAUCGCCGUGUUCCUGCCGAUCGUGGUCCUGAUCUUCAAGAGCAUC
CUCUUCCUGCCGUGCCUGCGGAAGAAGAUCCUCAAGAUCCGGCACGGCUGGGAGGACGUGACGAAGAUCAAC
AAGACCGAGAUCUGCAGCCAGCUG**UGA**CCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGC
CCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAUAUUCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAGACAAUUGGAAUU

Fig. 10

CDS STEAP (wt) = STEAP1

AUGGAAAGCAGAAAAGACAUCACAAACCAAGAAGAACUUUGGAAAAUGAAGCCUAGGAGAAAUUUAGAAGAA
GACGAUUAUUUGCAUAAGGACACGGGAGAGACCAGCAUGCUAAAAAGACCUGUGCUUUUGCAUUUGCACCAA
ACAGCCCAUGCUGAUGAAUUUGACUGCCCUUCAGAACUUCAGCACACACAGGAACUCUUUCCACAGUGGCAC
UUGCCAAUUAAAAUAGCUGCUAUUAUAGCAUCUCUGACUUUUCUUUACACUCUUCUGAGGGAAGUAAUUCAC
CCUUUAGCAACUUCCCAUCAACAAUAUUUUUAUAAAAUUCCAAUCCUGGUCAUCAACAAAGUCUUGCCAAUG
GUUUCCAUCACUCUCUUGGCAUUGGUUUACCUGCCAGGUGUGAUAGCAGCAAUUGUCCAACUUCAUAAUGGA
ACCAAGUAUAAGAAGUUUCCACAUUGGUUGGAUAAGUGGAUGUUAACAAGAAAGCAGUUUGGGCUUCUCAGU
UUCUUUUUUGCUGUACUGCAUGCAAUUUAUAGUCUGUCUUACCCAAUGAGGCGAUCCUACAGAUACAAGUUG
CUAAACUGGGCAUAUCAACAGGUCCAACAAAAUAAAGAAGAUGCCUGGAUUGAGCAUGAUGUUUGGAGAAUG
GAGAUUUAUGUGUCUCUGGGAAUUGUGGGAUUGGCAAUACUGGCUCUGUUGGCUGUGACAUCUAUUCCAUCU
GUGAGUGACUCUUUGACAUGGAGAGAAUUUCACUAUAUUCAGAGCAAGCUAGGAAUUGUUUCCCUUCUACUG
GGCACAAUACACGCAUUGAUUUUUGCCUGGAAUAAGUGGAUAGAUAUAAAACAAUUUGUAUGGUAUACACCU
CCAACUUUUAUGAUAGCUGUUUUCCUUCCAAUUGUUGUCCUGAUAUUUAAAAGCAUACUAUUCCUGCCAUGC
UUGAGGAAGAAGAUACUGAAGAUUAGACAUGGUUGGGAAGACGUCACCAAAAUUAACAAAACUGAGAUAUGU
UCCCAGUUGUAG

Fig. 11

CDS STEAP (GC) = STEAP1

AUG GAG AGC CGG AAG GAC AUC ACC AAC CAG GAG GAG CUG UGG AAG AUG AAG CCC
CGC CGG AAC CUC GAG GAG GAC GAC UAC CUG CAC AAG GAC ACC GGC GAG ACG UCC
AUG CUG AAG CGC CCG GUG CUC CUG CAC CUG CAC CAG ACC GCC CAC GCC GAC GAG
UUC GAC UGC CCC AGC GAG CUC CAG CAC ACC CAG GAG CUG UUC CCC CAG UGG CAC
CUG CCC AUC AAG AUC GCG GCC AUC AUC GCC UCC CUC ACC UUC CUG UAC ACG CUG
CUC CGG GAG GUC AUC CAC CCG CUG GCC ACC AGC CAC CAG CAG UAC UUC UAC AAG
AUC CCC AUC CUG GUG AUC AAC AAG GUG CUC CCC AUG GUC UCC AUC ACC CUG CUG
GCC CUC GUG UAC CUG CCC GGG GUG AUC GCG GCC AUC GUC CAG CUG CAC AAC GGC
ACC AAG UAC AAG AAG UUC CCG CAC UGG CUC GAC AAG UGG AUG CUG ACG CGC AAG
CAG UUC GGG CUG CUC AGC UUC UUC UUC GCC GUG CUG CAC GCC AUC UAC UCC CUG
AGC UAC CCC AUG CGG CGC UCC UAC CGG UAC AAG CUC CUG AAC UGG GCG UAC CAG
CAG GUG CAG CAG AAC AAG GAG GAC GCC UGG AUC GAG CAC GAC GUC UGG CGC AUG
GAG AUC UAC GUG AGC CUG GGC AUC GUG GGG CUC GCC AUC CUG GCC CUG CUC GCC
GUC ACC UCC AUC CCC AGC GUG UCC GAC AGC CUG ACC UGG CGG GAG UUC CAC UAC
AUC CAG UCC AAG CUG GGC AUC GUG AGC CUC CUG CUG GGC ACC AUC CAC GCG CUC
AUC UUC GCC UGG AAC AAG UGG AUC GAC AUC AAG CAG UUC GUC UGG UAC ACG CCC
CCG ACC UUC AUG AUC GCC GUG UUC CUG CCC AUC GUG GUC CUG AUC UUC AAG UCC
AUC CUC UUC CUG CCC UGC CUG CGC AAG AAG AUC CUC AAG AUC CGG CAC GGG UGG
GAG GAC GUG ACC AAG AUC AAC AAG ACC GAG AUC UGC AGC CAG CUG UGA

Fig. 12

PAP (GC)-muag-A64-C30

GGGAGAAAGCUUACCAUGCGGGCCGCCCCGCUGCUCCUGGCGCGCGCCGCCAGCCUGUCC
CUCGGCUUCCUGUUCCUGCUCUUCUUCUGGCUGGACCGGAGCGUGCUGGCCAAGGAGCUC
AAGUUCGUCACCCUGGUGUUCCGCCACGGGGACCGGUCCCCGAUCGACACCUUCCCCACG
GACCCCAUCAAGGAGAGCUCCUGGCCCCAGGGCUUCGGGCAGCUGACCCAGCUCGGCAUG
GAGCAGCACUACGAGCUGGGGGAGUACAUCCGCAAGCGGUACCGCAAGUUCCUGAACGAG
AGCUACAAGCACGAGCAGGUGUACAUCCGGUCCACCGACGUCGACCGCACCCUCAUGAGC
GCCAUGACGAACCUGGCGGCCCUGUUCCCGCCCGAGGGCGUGUCCAUCUGGAACCCCAUC
CUCCUGUGGCAGCCCAUCCCGGUGCACACCGUCCCCCUGAGCGAGGACCAGCUCCUGUAC
CUGCCCUUCCGGAACUGCCCCCGCUUCCAGGAGCUCGAGUCCGAGACCCUGAAGAGCGAG
GAGUUCCAGAAGCGGCUGCACCCGUACAAGGACUUCAUCGCCACCCUCGGCAAGCUGUCC
GGGCUGCACGGCCAGGACCUCUUCGGGAUCUGGAGCAAGGUGUACGACCCCCUGUACUGC
GAGUCCGUGCACAACUUCACGCUGCCCAGCUGGGCCACCGAGGACACCAUGACCAAGCUC
CGCGAGCUGUCCGAGCUGAGCCUCCUGUCCCUGUACGGCAUCCACAAGCAGAAGGAGAAG
AGCCGGCUCCAGGGCGGCGUCCUGGUGAACGAGAUCCUGAACCACAUGAAGCGCGCGACG
CAGAUCCCCAGCUACAAGAAGCUCAUCAUGUACUCCGCCCACGACACCACCGUGAGCGGG
CUGCAGAUGGCCCUGGACGUCUACAACGGGCUCCUGCCGCCCUACGCCUCCUGCCACCUG
ACCGAGCUGUACUUCGAGAAGGGCGAGUACUUCGUGGAGAUGUACUACCGGAACGAGACG
CAGCACGAGCCCUACCCCCUCAUGCUGCCGGGGUGCAGCCCCUCCUGCCCCCUGGAGCGC
UUCGCCGAGCUCGUGGGCCCCGUCAUCCCGCAGGACUGGAGCACCGAGUGCAUGACCACC
AACUCCCACCAGGGCACGGAGGACAGCACCGACUGAGGACUAGUUAUAAGACUGACUAGC
CCGAUGGGCCUCCCAACGGGCCCUCCUCCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAUAUUCC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAG

Fig. 13

CDS PAP (wt)

AUGAGAGCUGCACCCCUCCUCCUGGCCAGGGCAGCAAGCCUUAGCCUUGGCUUCUUGUUUCUGCUUUUUUUC
UGGCUAGACCGAAGUGUACUAGCCAAGGAGUUGAAGUUUGUGACUUUGGUGUUUCGGCAUGGAGACCGAAGU
CCCAUUGACACCUUUCCCACUGACCCCAUAAAGGAAUCCUCAUGGCCACAAGGAUUUGGCCAACUCACCCAG
CUGGGCAUGGAGCAGCAUUAUGAACUUGGAGAGUAUAUAAGAAAGAGAUAUAGAAAAUUCUUGAAUGAGUCC
UAUAAACAUGAACAGGUUUAUAUUCGAAGCACAGACGUUGACCGGACUUUGAUGAGUGCUAUGACAAACCUG
GCAGCCCUGUUUCCCCCAGAAGGUGUCAGCAUCUGGAAUCCUAUCCUACUCUGGCAGCCCAUCCCGGUGCAC
ACAGUUCCUCUUUCUGAAGAUCAGUUGCUAUACCUGCCUUUCAGGAACUGCCCUCGUUUUCAAGAACUUGAG
AGUGAGACUUUGAAAUCAGAGGAAUUCCAGAAGAGGCUGCACCCUUAUAAGGAUUUUAUAGCUACCUUGGGA
AAACUUUCAGGAUUACAUGGCCAGGACCUUUUUGGAAUUUGGAGUAAAGUCUACGACCCUUUAUAUUGUGAG
AGUGUUCACAAUUUCACUUUACCCUCCUGGGCCACUGAGGACACCAUGACUAAGUUGAGAGAAUUGUCAGAA
UUGUCCCUCCUGUCCCUCUAUGGAAUUCACAAGCAGAAAGAGAAAUCUAGGCUCCAAGGGGGUGUCCUGGUC
AAUGAAAUCCUCAAUCACAUGAAGAGAGCAACUCAGAUACCAAGCUACAAAAAACUCAUCAUGUAUUCUGCG
CAUGACACUACUGUGAGUGGCCUACAGAUGGCGCUAGAUGUUUACAACGGACUCCUUCCUCCCUAUGCUUCU
UGCCACUUGACGGAAUUGUACUUUGAGAAGGGGGAGUACUUUGUGGAGAUGUACUAUCGGAAUGAGACGCAG
CACGAGCCGUAUCCCCUCAUGCUACCUGGCUGCAGCCCCAGCUGUCCUCUGGAGAGGUUUGCUGAGCUGGUU
GGCCCUGUGAUCCCUCAAGACUGGUCCACGGAGUGUAUGACCACAAACAGCCAUCAAGGUACUGAAGACAGU
ACAGAUUAG

Fig. 14

CDS PAP (GC)

AUGCGGGCCGCCCCGCUGCUCCUGGCGCGCGCCGCCAGCCUGUCCCUCGGCUUCCUGUUCCUGCUCUUCUUC
UGGCUGGACCGGAGCGUGCUGGCCAAGGAGCUCAAGUUCGUCACCCUGGUGUUCCGCCACGGGGACCGGUCC
CCGAUCGACACCUUCCCCACGGACCCCAUCAAGGAGAGCUCCUGGCCCCAGGGCUUCGGGCAGCUGACCCAG
CUCGGCAUGGAGCAGCACUACGAGCUGGGGGAGUACAUCCGCAAGCGGUACCGCAAGUUCCUGAACGAGAGC
UACAAGCACGAGCAGGUGUACAUCCGGUCCACCGACGUCGACCGCACCCUCAUGAGCGCCAUGACGAACCUG
GCGGCCCUGUUCCCGCCCGAGGGCGUGUCCAUCUGGAACCCCAUCCUCCUGUGGCAGCCCAUCCCGGUGCAC
ACCGUCCCCCUGAGCGAGGACCAGCUCCUGUACCUGCCCUUCCGGAACUGCCCCCGCUUCCAGGAGCUCGAG
UCCGAGACCCUGAAGAGCGAGGAGUUCCAGAAGCGGCUGCACCCGUACAAGGACUUCAUCGCCACCCUCGGC
AAGCUGUCCGGGCUGCACGGCCAGGACCUCUUCGGGAUCUGGAGCAAGGUGUACGACCCCCUGUACUGCGAG
UCCGUGCACAACUUCACGCUGCCCAGCUGGGCCACCGAGGACACCAUGACCAAGCUCCGCGAGCUGUCCGAG
CUGAGCCUCCUGUCCCUGUACGGCAUCCACAAGCAGAAGGAGAAGAGCCGGCUCCAGGGCGGCGUCCUGGUG
AACGAGAUCCUGAACCACAUGAAGCGCGCGACGCAGAUCCCCAGCUACAAGAAGCUCAUCAUGUACUCCGCC
CACGACACCACCGUGAGCGGGCUGCAGAUGGCCCUGGACGUCUACAACGGGCUCCUGCCGCCCUACGCCUCC
UGCCACCUGACCGAGCUGUACUUCGAGAAGGGCGAGUACUUCGUGGAGAUGUACUACCGGAACGAGACGCAG
CACGAGCCCUACCCCCUCAUGCUGCCGGGGUGCAGCCCCUCCUGCCCCCUGGAGCGCUUCGCCGAGCUCGUG
GGCCCCGUCAUCCCGCAGGACUGGAGCACCGAGUGCAUGACCACCAACUCCCACCAGGGCACGGAGGACAGC
ACCGACUGA

Fig. 15

MUC1 5xVNTR (GC)-muag-A64-C30

GGGAGAAAGCUUACCAUGACCCCCGGCACCCAGAGCCCGUUCUUCCUGCUCCUGCUGCUC
ACGGUGCUGACCGUCGUGACCGGGUCCGGCCACGCCAGCUCCACCCCCGGGGGCGAGAAG
GAGACGAGCGCCACCCAGCGGUCCAGCGUGCCCUCCAGCACCGAGAAGAACGCGGUCUCC
AUGACCAGCUCCGUGCUGAGCUCCCACAGCCCCGGGUCCGGCAGCUCCACGACCCAGGGC
CAGGACGUGACCCUCGCCCCGGCCACCGAGCCCGCCAGCGGGUCCGCCGCGACGUGGGGC
CAGGACGUCACCAGCGUGCCCGUGACCCGCCCCGCCCUGGGGAGCACCACGCCGCCCGCC
CACGACGUCACCUCCGCCCCCGACAACAAGCCCGCGCCGGGCAGCACCGCCCCCCCCGCC
CACGGGGUGACCUCCGCCCCCGACACGCGGCCGGCCCCCGGCAGCACCGCGCCCCCCGCC
CACGGCGUGACCUCCGCCCCGGACACCCGCCCCGCCCCCGGGAGCACGGCCCCGCCGGCG
CACGGCGUCACCUCCGCCCCCGACACCCGGCCCGCCCCCGGGAGCACCGCCCCGCCCGCC
CACGGCGUGACGUCCGCGCCCGACACCCGCCCGGCCCCCGGCAGCACCGCCCCCCCCGCC
CACGGGGUGACCUCCGCCCCGGACACGCGGCCCGCGCCCGGCAGCACCGCCCCGCCGGCC
CACGGGGUCACCUCCGCGCCCGACAACCGCCCCGCCCUGGGGAGCACCGCCCCGCCCGUG
CACAACGUGACCUCCGCCAGCGGCUCCGCGAGCGGGUCCGCCAGCACCCUCGUCCACAAC
GGCACGUCCGCCCGGGCCACCACCACCCCCGCCAGCAAGUCCACGCCCUUCAGCAUCCCG
UCCCACCACAGCGACACCCCCACCACCCUGGCGUCCCACAGCACGAAGACCGACGCCUCC
AGCACCCACCACUCCAGCGUGCCCCCGCUGACCAGCUCCAACCACAGCACGUCCCCGCAG
CUCAGCACCGGGGUGUCCUUCUUCUUCCUGAGCUUCCACAUCUCCAACCUGCAGUUCAAC
AGCUCCCUCGAGGACCCCAGCACCGACUACUACCAGGAGCUGCAGCGGGACAUCUCCGAG
AUGUUCCUGCAGAUCUACAAGCAGGGCGGCUUCCUCGGGCUGAGCAACAUCAAGUUCCGC
CCCGGCUCCGUCGUGGUGCAGCUGACCCUCGCCUUCCGGGAGGGGACGAUCAACGUCCAC
GACGUGGAGACCCAGUUCAACCAGUACAAGACCGAGGCCGCCAGCCGCUACAACCUGACC
AUCUCCGACGUGAGCGUCUCCGACGUGCCCUUCCCGUUCAGCGCGCAGUCCGGCGCCGGC
GUGCCCGGGUGGGGCAUCGCCCUGCUCGUCCUGGUGUGCGUGCUGGUCGCCCUCGCCAUC
GUGUACCUGAUCGCGCUGGCCGUGUGCCAGUGCCGGCGCAAGAACUACGGGCAGCUCGAC
AUCUUCCCCGCCCGGGACACGUACCACCCGAUGAGCGAGUACCCGACCUACCACACCCAC
GGCCGCUACGUCCCCCCCAGCUCCACCGACCGGAGCCCCUACGAGAAGGUGUCCGCCGGG
AACGGCGGCAGCUCCCUGAGCUACACCAACCCGGCGGUGGCCGCCGCCUCCGCCAACCUG
UGACCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGCCCUCCUCCCCUC
CUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAUAUUCCCCCCCCCCCCCCCCCCCCCCCCCCCCUCUAG

Fig. 16

CDS MUC1 5xVNTR (wt)

AUGACACCGGGCACCCAGUCUCCUUUCUUCCUGCUGCUGCUCCUCACAGUGCUUACAGUUGUUACAGGUUCU
GGUCAUGCAAGCUCUACCCCAGGUGGAGAAAAGGAGACUUCGGCUACCCAGAGAAGUUCAGUGCCCAGCUCU
ACUGAGAAGAAUGCUGUGAGUAUGACCAGCAGCGUACUCUCCAGCCACAGCCCCGGUUCAGGCUCCUCCACC
ACUCAGGGACAGGAUGUCACUCUGGCCCCGGCCACGGAACCAGCUUCAGGUUCAGCUGCCACCUGGGGACAG
GAUGUCACCUCGGUCCCAGUCACCAGGCCAGCCCUGGGCUCCACCACCCCGCCAGCCCACGAUGUCACCUCA
GCCCCGGACAACAAGCCAGCCCCGGGCUCCACCGCCCCCCCAGCCCACGGUGUCACCUCGGCCCCGGACACC
AGGCCGGCCCCGGGCUCCACCGCCCCCCCAGCCCACGGUGUCACCUCGGCCCCGGACACCAGGCCGGCCCCG
GGCUCCACCGCCCCCCCAGCCCACGGUGUCACCUCGGCCCCGGACACCAGGCCGGCCCCGGGCUCCACCGCC
CCCCCAGCCCACGGUGUCACCUCGGCCCCGGACACCAGGCCGGCCCCGGGCUCCACCGCCCCCCCAGCCCAC
GGUGUCACCUCGGCCCCGGACACCAGGCCGGCCCCGGGCUCCACCGCCCCCCCAGCCCACGGUGUCACCUCG
GCCCCGGACAACAGGCCCGCCUUGGGCUCCACCGCCCCUCCAGUCCACAAUGUCACCUCGGCCUCAGGCUCU
GCAUCAGGCUCAGCUUCUACUCUGGUGCACAACGGCACCUCUGCCAGGGCUACCACAACCCCAGCCAGCAAG
AGCACUCCAUUCUCAAUUCCCAGCCACCACUCUGAUACUCCUACCACCCUUGCCAGCCAUAGCACCAAGACU
GAUGCCAGUAGCACUCACCAUAGCUCGGUACCUCCUCUCACCUCCUCCAAUCACAGCACUUCUCCCCAGUUG
UCUACUGGGGUCUCUUUCUUUUUCCUGUCUUUUCACAUUUCAAACCUCCAGUUUAAUUCCUCUCUGGAAGAU
CCCAGCACCGACUACUACCAAGAGCUGCAGAGAGACAUUUCUGAAAUGUUUUUGCAGAUUUAUAAACAAGGG
GGUUUUCUGGGCCUCUCCAAUAUUAAGUUCAGGCCAGGAUCUGUGGUGGUACAAUUGACUCUGGCCUUCCGA
GAAGGUACCAUCAAUGUCCACGACGUGGAGACACAGUUCAAUCAGUAUAAAACGGAAGCAGCCUCUCGAUAU
AACCUGACGAUCUCAGACGUCAGCGUGAGUGAUGUGCCAUUUCCUUUCUCUGCCCAGUCUGGGGCUGGGGUG
CCAGGCUGGGGCAUCGCGCUGCUGGUGCUGGUCUGUGUUCUGGUUGCGCUGGCCAUUGUCUAUCUCAUUGCC
UUGGCUGUCUGUCAGUGCCGCCGAAAGAACUACGGGCAGCUGGACAUCUUUCCAGCCCGGGAUACCUACCAU
CCUAUGAGCGAGUACCCCACCUACCACACCCAUGGGCGCUAUGUGCCCCCUAGCAGUACCGAUCGUAGCCCC
UAUGAGAAGGUUUCUGCAGGUAACGGUGGCAGCAGCCUCUCUUACACAAACCCAGCAGUGGCAGCCGCUUCU
GCCAACUUG**UAG**

Fig. 17

CDS MUC1 5xVNTR (GC)

AUGACCCCCGGCACCCAGAGCCCGUUCUUCCUGCUCCUGCUGCUCACGGUGCUGACCGUCGUGACCGGGUCC
GGCCACGCCAGCUCCACCCCCGGGGGCGAGAAGGAGACGAGCGCCACCCAGCGGUCCAGCGUGCCCUCCAGC
ACCGAGAAGAACGCGGUCUCCAUGACCAGCUCCGUGCUGAGCUCCCACAGCCCCGGGUCCGGCAGCUCCACG
ACCCAGGGCCAGGACGUGACCCUCGCCCCGGCCACCGAGCCCGCCAGCGGGUCCGCCGCGACGUGGGGCCAG
GACGUCACCAGCGUGCCCGUGACCCGCCCCGCCCUGGGGAGCACCACGCCGCCCGCCCACGACGUCACCUCC
GCCCCCGACAACAAGCCCGCGCCGGGCAGCACCGCCCCCCCCGCCCACGGGGUGACCUCCGCCCCCGACACG
CGGCCGGCCCCCGGCAGCACCGCGCCCCCCGCCCACGGCGUGACCUCCGCCCCGGACACCCGCCCCGCCCCC
GGGAGCACGGCCCCGCCGGCGCACGGCGUCACCUCCGCCCCCGACACCCGGCCCGCCCCCGGGAGCACCGCC
CCGCCCGCCCACGGCGUGACGUCCGCGCCCGACACCCGCCCGGCCCCCGGCAGCACCGCCCCCCCCGCCCAC
GGGGUGACCUCCGCCCCGGACACGCGGCCCCGCGCCCGGCAGCACCGCCCCGCCGGCCCACGGGGUCACCUCC
GCGCCCGACAACCGCCCCGCCCUGGGGAGCACCGCCCCGCCCGUGCACAACGUGACCUCCGCCAGCGGCUCC
GCGAGCGGGUCCGCCAGCACCCUCGUCCACAACGGCACGUCCGCCCGGGCCACCACCACCCCCGCCAGCAAG
UCCACGCCCUUCAGCAUCCCGUCCCACCACAGCGACACCCCCACCACCCUGGCGUCCCACAGCACGAAGACC
GACGCCUCCCAGCACCCACCACUCCAGCGUGCCCCCGCUGACCAGCUCCAACCACAGCACGUCCCCGCAGCUC
AGCACCGGGGGUGUCCUUCUUCUUCCUGAGCUUCCACAUCUCCAACCUGCAGUUCAACAGCUCCCUCGAGGAC
CCCAGCACCGACUACUACCAGGAGCUGCAGCGGGACAUCUCCGAGAUGUUCCUGCAGAUCUACAAGCAGGGC
GGCUUCCUCGGGCUGAGCAACAUCAAGUUCCGCCCCGGCUCCGUCGUGGUGCAGCUGACCCUCGCCUUCCGG
GAGGGGACGAUCAACGUCCACGACGUGGAGACCCAGUUCAACCAGUACAAGACCGAGGCCGCCAGCCGCUAC
AACCUGACCAUCUCCGACGUGAGCGUCUCCGACGUGCCCUUCCCGUUCAGCGCGCAGUCCGGCGCCGGCGUG
CCCGGGUGGGGCAUCGCCCUGCUCGUCCUGGUGUGCGUGCUGGUCGCCCUCGCCAUCGUGUACCUGAUCGCG
CUGGCCGUGUGCCAGUGCCGGCGCAAGAACUACGGGCAGCUCGACAUCUUCCCCGCCCGGGACACGUACCAC
CCGAUGAGCGAGUACCCGACCUACCACACCCACGGCCGCUACGUCCCCCCCAGCUCCACCGACCGGAGCCCC
UACGAGAAGGUGUCCGCCGGGAACGGCGGCAGCUCCCUGAGCUACACCAACCCGGCGGUGGCCGCCGCCUCC
GCCAACCUG**UGA**

Fig. 18

PSA/KLK3 (GC)-muag-A64-C30-histoneSL

GGGAGAAAGCUUACCAUGUGGGUGCCGGUCGUGUUCCUGACCCUCAGCGUGACGUGGAUC
GGCGCCGCGCCCCUGAUCCUGUCGCGGAUCGUGGGGGGCUGGGAGUGCGAGAAGCACAGC
CAGCCCUGGCAGGUGCUGGUGGCCAGCCGCGGCCGGGCCGUGUGCGGCGGCGUGCUGGUG
CACCCCCAGUGGGUGCUGACCGCCGCCCACUGCAUCCGGAACAAGAGCGUCAUCCUGCUG
GGCCGGCACAGCCUGUUCCACCCCGAGGACACCGGCCAGGUGUUCCAGGUGAGCCACAGC
UUCCCCCACCCCCUGUACGACAUGAGCCUCCUGAAGAACCGGUUCCUGCGGCCCGGCGAC
GACAGCAGCCACGACCUGAUGCUGCUGCGGCUGAGCGAGCCCGCCGAGCUGACCGACGCC
GUGAAGGUGAUGGACCUGCCGACCCAGGAGCCCGCCCUGGGCACCACCUGCUACGCCAGC
GGCUGGGGGAGCAUCGAGCCCGAGGAGUUCCUCACCCCCAAGAAGCUGCAGUGCGUGGAC
CUGCACGUGAUCAGCAACGACGUGUGCGCCCAGGUGCACCCCCAGAAGGUGACCAAGUUC
AUGCUGUGCGCCGGCCGGUGGACCGGCGGCAAGAGCACCUGCAGCGGCGACAGCGGCGGC
CCCCUGGUCUGCAACGGCGUGCUGCAGGGCAUCACCAGCUGGGGCAGCGAGCCCUGCGCC
CUGCCCGAGCGCCCCAGCCUGUACACCAAGGUGGUGCACUACCGGAAGUGGAUCAAGGAC
ACCAUCGUGGCCAACCCGUGACCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCA
ACGGGCCCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAUGCAUCCCCCCCCCCCCCCCC
CCCCCCCCCCCCCCCCAAAGGCUCUUUUCAGAGCCACCAGAAUU

Fig. 19

PSMA/FOLH1 (GC)-muag-A64-C30-histoneSL

GGGAGAAAGCUUACCAUGUGGAACCUGCUCCACGAGACCGACAGCGCCGUGGCGACGGCC
CGGCGCCCGCGGUGGCUGUGCGCCGGCGCCCUGGUCCUGGCCGGGGGCUUCUUCCUGCUG
GGCUUCCUGUUCGGCUGGUUCAUCAAGUCGAGCAACGAGGCCACCAACAUCACCCCCAAG
CACAACAUGAAGGCCUUCCUCGACGAGCUGAAGGCCGAGAACAUCAAGAAGUUCCUGUAC
AACUUCACCCAGAUCCCCCACCUGGCCGGGACCGAGCAGAACUUCCAGCUGGCCAAGCAG
AUCCAGAGCCAGUGGAAGGAGUUCGGCCUGGACUCGGUGGAGCUGGCGCACUACGACGUG
CUGCUCAGCUACCCCAACAAGACCCACCCCAACUACAUCAGCAUCAUCAACGAGGACGGC
AACGAGAUCUUCAACACCAGCCUGUUCGAGCCCCCGCCCCCCGGCUACGAGAACGUGUCG
GACAUCGUGCCCCCCUUCAGCGCCUUCAGCCCGCAGGGCAUGCCCGAGGGGGACCUGGUG
UACGUGAACUACGCCCGGACGGAGGACUUCUUCAAGCUGGAGCGCGACAUGAAGAUCAAC
UGCAGCGGCAAGAUCGUGAUCGCCCGGUACGGCAAGGUGUUCCGGGGCAACAAGGUGAAG
AACGCCCAGCUGGCCGGGGCCAAGGGCGUGAUCCUGUACUCGGACCCCGCCGACUACUUC
GCCCCCGGCGUGAAGAGCUACCCCGACGGCUGGAACCUGCCCGGCGGGGGCGUCCAGCGC
GGCAACAUCCUCAACCUGAACGGCGCCGGCGACCCGCUGACCCCCGGGUACCCCGCGAAC
GAGUACGCCUACCGGCGGGGCAUCGCCGAGGCCGUGGGCCUGCCCAGCAUCCCCGUGCAC
CCGAUCGGCUACUACGACGCCCAGAAGCUGCUGGAGAAGAUGGGCGGGAGCGCCCCGCCC
GACUCGAGCUGGCGGGGCAGCCUGAAGGUGCCCUACAACGUGGGCCCCGGCUUCACCGGG
AACUUCUCGACCCAGAAGGUGAAGAUGCACAUCCACAGCACCAACGAGGUGACCCGCAUC
UACAACGUGAUCGGCACCCUGCGGGGCGCCGUGGAGCCCGACCGGUACGUGAUCCUCGGC
GGGCACCGCGACAGCUGGGUGUUCGGCGGCAUCGACCCCCAGAGCGGCGCCGCCGUGGUC
CACGAGAUCGUGCGGUCGUUCGGCACCCUGAAGAAGGAGGGGUGGCGGCCCCGCCGGACG
AUCCUGUUCGCCAGCUGGGACGCGGAGGAGUUCGGCCUGCUGGGCAGCACCGAGUGGGCC
GAGGAGAACAGCCGGCUGCUGCAGGAGCGGGGCGUGGCCUACAUCAACGCCGACUCGAGC
AUCGAGGGCAACUACACCCUCCGCGUGGACUGCACCCCGCUGAUGUACAGCCUGGUGCAC
AACCUGACCAAGGAGCUGAAGAGCCCCGACGAGGGGUUCGAGGGCAAGUCGCUGUACGAG
AGCUGGACCAAGAAGAGCCCCUCGCCCGAGUUCAGCGGCAUGCCCCGGAUCAGCAAGCUG
GGCAGCGGGAACGACUUCGAGGUGUUCUUCCAGCGGCUGGGCAUCGCCUCGGGCCGCGCC
CGGUACACCAAGAACUGGGAGACGAACAAGUUCAGCGGCUACCCCCUCUACCACAGCGUG
UACGAGACCUACGAGCUGGUGGAGAAGUUCUACGACCCCAUGUUCAAGUACCACCUGACC
GUGGCCCAGGUGCGGGGCGGGAUGGUGUUCGAGCUGGCCAACAGCAUCGUGCUGCCCUUC
GACUGCCGCGACUACGCCGUCGUGCUGCGGAAGUACGCCGACAAGAUCUACUCGAUCAGC
AUGAAGCACCCCCAGGAGAUGAAGACCUACAGCGUGAGCUUCGACUCGCUGUUCAGCGCG
GUGAAGAACUUCACCGAGAUCGCCAGCAAGUUCUCGGAGCGGCUCCAGGACUUCGACAAG
AGCAACCCGAUCGUGCUGCGCAUGAUGAACGACCAGCUGAUGUUCCUGGAGCGGGCCUUC
AUCGACCCCCUGGGCCUGCCCGACCGGCCCUUCUACCGGCACGUGAUCUACGCCCCCAGC
AGCCACAACAAGUACGCCGGCGAGUCGUUCCCGGGGAUCUACGACGCCCUGUUCGACAUC
GAGAGCAAGGUGGACCCCAGCAAGGCCUGGGGCGAGGUGAAGCGCCAGAUCUACGUGGCC
GCCUUCACCGUGCAGGCCGCGGCCGAGACCCUGAGCGAGGUGGCCUGACCACUAGUUAUA
AGACUGACUAGCCCGAUGGGCCUCCCAACGGGCCCUCCUCCCCCUCCUUGCACCGAGAUUA
AUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAUGCAUCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCAAAGGCUCUUUUCAGAGC
CACCAGAAUU

Fig. 20

PSCA (GC)-muag-A64-C30-histoneSL

GGGAGAAAGCUUACCAUGAAGGCCGUGCUGCUCGCGCUGCUGAUGGCCGGCCUGGCCCUG
CAGCCGGGGACCGCCCUGCUGUGCUACAGCUGCAAGGCCCAGGUCUCGAACGAGGACUGC
CUGCAGGUGGAGAACUGCACGCAGCUGGGCGAGCAGUGCUGGACCGCCCGGAUCCGCGCC
GUGGGCCUGCUCACCGUGAUCAGCAAGGGCUGCAGCCUGAACUGCGUGGACGACAGCCAG
GACUACUACGUGGGCAAGAAGAACAUCACCUGCUGCGACACCGACCUGUGCAACGCCAGC
GGCGCCCACGCCCUGCAGCCCGCGGCCGCCAUCCUGGCCCUGCUGCCCGCCCUGGGCCUG
CUGCUCUGGGGCCCCGGCCAGCUGUGACCACUAGUUAUAAGACUGACUAGCCCGAUGGGC
CUCCCAACGGGCCCUCCUCCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAUGCAUCCCCCCCCCC
CCCCCCCCCCCCCCCCCCCCCCAAAGGCUCUUUUCAGAGCCACCAGAAUU

Fig. 21

STEAP1 (GC)-muag-A64-C30-histoneSL

GGGAGAAAGCUUACCAUGGAGAGCCGGAAGGACAUCACCAACCAGGAGGAGCUGUGGAAG
AUGAAGCCGCGCCGGAACCUCGAGGAGGACGACUACCUGCACAAGGACACGGGCGAGACC
UCGAUGCUGAAGCGGCCCGUGCUCCUGCACCUGCACCAGACCGCCCACGCGGACGAGUUC
GACUGCCCGAGCGAGCUCCAGCACACGCAGGAGCUGUUCCCGCAGUGGCACCUGCCCAUC
AAGAUCGCCGCCAUCAUCGCGAGCCUCACCUUCCUGUACACCCUGCUCCGCGAGGUCAUC
CACCCGCUGGCCACGUCGCACCAGCAGUACUUCUACAAGAUCCCGAUCCUGGUGAUCAAC
AAGGUGCUCCCCAUGGUCAGCAUCACCCUGCUGGCCCUCGUGUACCUGCCGGGGGUGAUC
GCGGCCAUCGUCCAGCUGCACAACGGCACCAAGUACAAGAAGUUCCCGCACUGGCUCGAC
AAGUGGAUGCUGACGCGGAAGCAGUUCGGCCUGCUCAGCUUCUUCUUCGCCGUGCUGCAC
GCGAUCUACUCGCUGAGCUACCCCAUGCGGCGCAGCUACCGGUACAAGCUCCUGAACUGG
GCCUACCAGCAGGUGCAGCAGAACAAGGAGGACGCCUGGAUCGAGCACGACGUCUGGCGG
AUGGAGAUCUACGUGUCGCUGGGGAUCGUGGGCCUCGCGAUCCUGGCCCUGCUCGCCGUC
ACCAGCAUCCCGAGCGUGUCGGACAGCCUGACCUGGCGCGAGUUCCACUACAUCCAGAGC
AAGCUGGGCAUCGUGUCGCUCCUGCUGGGGACGAUCCACGCGCUCAUCUUCGCCUGGAAC
AAGUGGAUCGACAUCAAGCAGUUCGUCUGGUACACCCCGCCCACCUUCAUGAUCGCCGUG
UUCCUGCCGAUCGUGGUCCUGAUCUUCAAGAGCAUCCUCUUCCUGCCGUGCCUGCGGAAG
AAGAUCCUCAAGAUCCGGCACGGCUGGGAGGACGUGACGAAGAUCAACAAGACCGAGAUC
UGCAGCCAGCUGUGACCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGC
CCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAUGCAUCCCCCCCCCCCCCCCCCCCCC
CCCCCCCCCAAAGGCUCUUUUCAGAGCCACCAGAAUU

Fig. 22

PAP (GC)-muag-A64-C30-histoneSL (R2251)

GGGAGAAAGCUUACCAUGCGGGCCGCCCCGCUGCUCCUGGCGCGCGCCGCCAGCCUGUCC
CUCGGCUUCCUGUUCCUGCUCUUCUUCUGGCUGGACCGGAGCGUGCUGGCCAAGGAGCUC
AAGUUCGUCACCCUGGUGUUCCGCCACGGGGACCGGUCCCCGAUCGACACCUUCCCCACG
GACCCCAUCAAGGAGAGCUCCUGGCCCCAGGGCUUCGGGCAGCUGACCCAGCUCGGCAUG
GAGCAGCACUACGAGCUGGGGGAGUACAUCCGCAAGCGGUACCGCAAGUUCCUGAACGAG
AGCUACAAGCACGAGCAGGUGUACAUCCGGUCCACCGACGUCGACCGCACCCUCAUGAGC
GCCAUGACGAACCUGGCGGCCCUGUUCCCGCCCGAGGGCGUGUCCAUCUGGAACCCCAUC
CUCCUGUGGCAGCCCAUCCCGGUGCACACCGUCCCCCUGAGCGAGGACCAGCUCCUGUAC
CUGCCCUUCCGGAACUGCCCCCGCUUCCAGGAGCUCGAGUCCGAGACCCUGAAGAGCGAG
GAGUUCCAGAAGCGGCUGCACCCGUACAAGGACUUCAUCGCCACCCUCGGCAAGCUGUCC
GGGCUGCACGGCCAGGACCUCUUCGGGAUCUGGAGCAAGGUGUACGACCCCCUGUACUGC
GAGUCCGUGCACAACUUCACGCUGCCCAGCUGGGCCACCGAGGACACCAUGACCAAGCUC
CGCGAGCUGUCCGAGCUGAGCCUCCUGUCCCUGUACGGCAUCCACAAGCAGAAGGAGAAG
AGCCGGCUCCAGGGCGGCGUCCUGGUGAACGAGAUCCUGAACCACAUGAAGCGCGCGACG
CAGAUCCCCAGCUACAAGAAGCUCAUCAUGUACUCCGCCCACGACACCACCGUGAGCGGG
CUGCAGAUGGCCCUGGACGUCUACAACGGGCUCCUGCCGCCCUACGCCUCCUGCCACCUG
ACCGAGCUGUACUUCGAGAAGGGCGAGUACUUCGUGGAGAUGUACUACCGGAACGAGACG
CAGCACGAGCCCUACCCCCUCAUGCUGCCGGGGUGCAGCCCCUCCUGCCCCCUGGAGCGC
UUCGCCGAGCUCGUGGGCCCCGUCAUCCCGCAGGACUGGAGCACCGAGUGCAUGACCACC
AACUCCCACCAGGGCACGGAGGACAGCACCGACUGAGGACUAGUUAUAAGACUGACUAGC
CCGAUGGGCCUCCCAACGGGCCCUCCUCCCCUCCUUGCACCGAGAUUAAUAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAUGCAUC
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCAAAGGCUCUUUUCAGAGCCACCAGAAUU

Fig. 23

MUC1 5xVNTR (GC)-muag-A64-C30-histoneSL (R2312)

GGGAGAAAGCUUACCAUGACCCCCGGCACCCAGAGCCCGUUCUUCCUGCUCCUGCUGCUC
ACGGUGCUGACCGUCGUGACCGGGUCCGGCCACGCCAGCUCCACCCCCGGGGGCGAGAAG
GAGACGAGCGCCACCCAGCGGUCCAGCGUGCCCUCCAGCACCGAGAAGAACGCGGUCUCC
AUGACCAGCUCCGUGCUGAGCUCCCACAGCCCCGGGUCCGGCAGCUCCACGACCCAGGGC
CAGGACGUGACCCUCGCCCCGGCCACCGAGCCCGCCAGCGGGUCCGCCGCGACGUGGGGC
CAGGACGUCACCAGCGUGCCCGUGACCCGCCCCGCCCUGGGGAGCACCACGCCGCCCGCC
CACGACGUCACCUCCGCCCCCGACAACAAGCCCGCGCCGGGCAGCACCGCCCCCCCCGCC
CACGGGGUGACCUCCGCCCCCGACACGCGGCCGGCCCCCGGCAGCACCGCGCCCCCCGCC
CACGGCGUGACCUCCGCCCCGGACACCCGCCCCGCCCCCGGGAGCACGGCCCCGCCGGCG
CACGGCGUCACCUCCGCCCCCGACACCCGGCCCGCCCCCGGGAGCACCGCCCCGCCCGCC
CACGGCGUGACGUCCGCGCCCGACACCCGCCCGGCCCCCGGCAGCACCGCCCCCCCCGCC
CACGGGGUGACCUCCGCCCCGGACACGCGGCCCGCGCCCGGCAGCACCGCCCCGCCGGCC
CACGGGGUCACCUCCGCGCCCGACAACCGCCCCGCCCUGGGGAGCACCGCCCCGCCCGUG
CACAACGUGACCUCCGCCAGCGGCUCCGCGAGCGGGUCCGCCAGCACCCUCGUCCACAAC
GGCACGUCCGCCCGGGCCACCACCACCCCCGCCAGCAAGUCCACGCCCUUCAGCAUCCCG
UCCCACCACAGCGACACCCCCACCACCCUGGCGUCCCACAGCACGAAGACCGACGCCUCC
AGCACCCACCACUCCAGCGUGCCCCCGCUGACCAGCUCCAACCACAGCACGUCCCCGCAG
CUCAGCACCGGGGUGUCCUUCUUCUUCCUGAGCUUCCACAUCUCCAACCUGCAGUUCAAC
AGCUCCCUCGAGGACCCCAGCACCGACUACUACCAGGAGCUGCAGCGGGACAUCUCCGAG
AUGUUCCUGCAGAUCUACAAGCAGGGCGGCUUCCUCGGGCUGAGCAACAUCAAGUUCCGC
CCCGGCUCCGUCGUGGUGCAGCUGACCCUCGCCUUCCGGGAGGGGACGAUCAACGUCCAC
GACGUGGAGACCCAGUUCAACCAGUACAAGACCGAGGCCGCCAGCCGCUACAACCUGACC
AUCUCCGACGUGAGCGUCUCCGACGUGCCCUUCCCGUUCAGCGCGCAGUCCGGCGCCGGC
GUGCCCGGGUGGGGCAUCGCCCUGCUCGUCCUGGUGUGCGUGCUGGUCGCCCUCGCCAUC
GUGUACCUGAUCGCGCUGGCCGUGUGCCAGUGCCGGCGCAAGAACUACGGGCAGCUCGAC
AUCUUCCCCGCCCGGGACACGUACCACCCGAUGAGCGAGUACCCGACCUACCACACCCAC
GGCCGCUACGUCCCCCCCAGCUCCACCGACCGGAGCCCCUACGAGAAGGUGUCCGCCGGG
AACGGCGGCAGCUCCCUGAGCUACACCAACCCGGCGGUGGCCGCCGCCUCCGCCAACCUG
UGACCACUAGUUAUAAGACUGACUAGCCCGAUGGGCCUCCCAACGGGCCCUCCUCCCCUC
CUUGCACCGAGAUUAAUAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAUGCAUCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCAAA
GGCUCUUUUCAGAGCCACCAGAAUU

Fig. 24

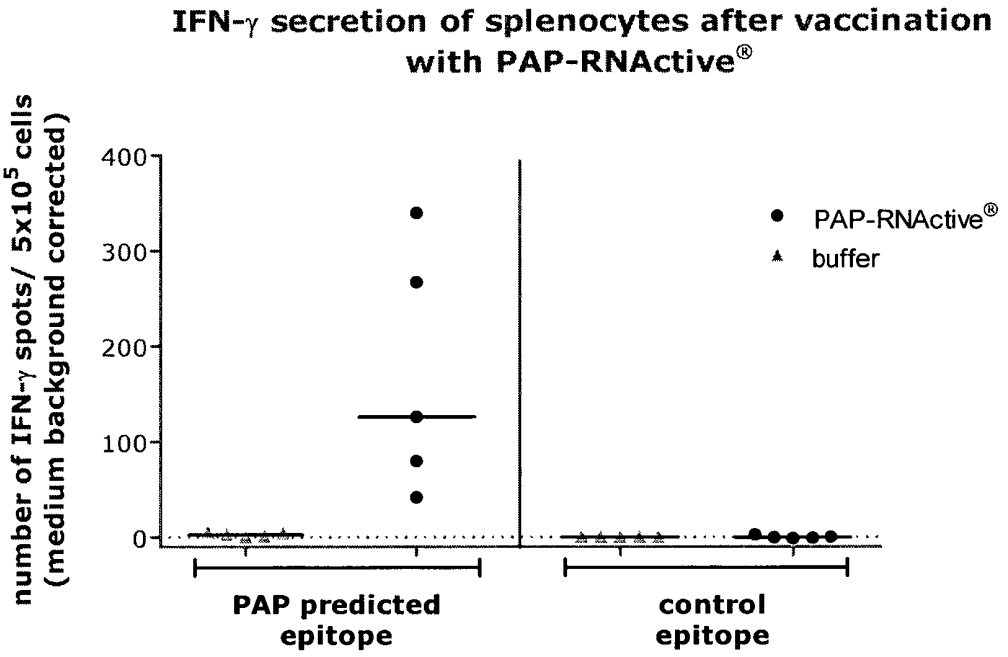

IFN-γ secretion of splenocytes after vaccination with PAP-RNActive®
number of IFN-γ spots/ 5x10^5 cells (medium background corrected)
400
300
200
100
0
PAP-RNActive®
buffer
PAP predicted epitope
control epitope

Fig. 25

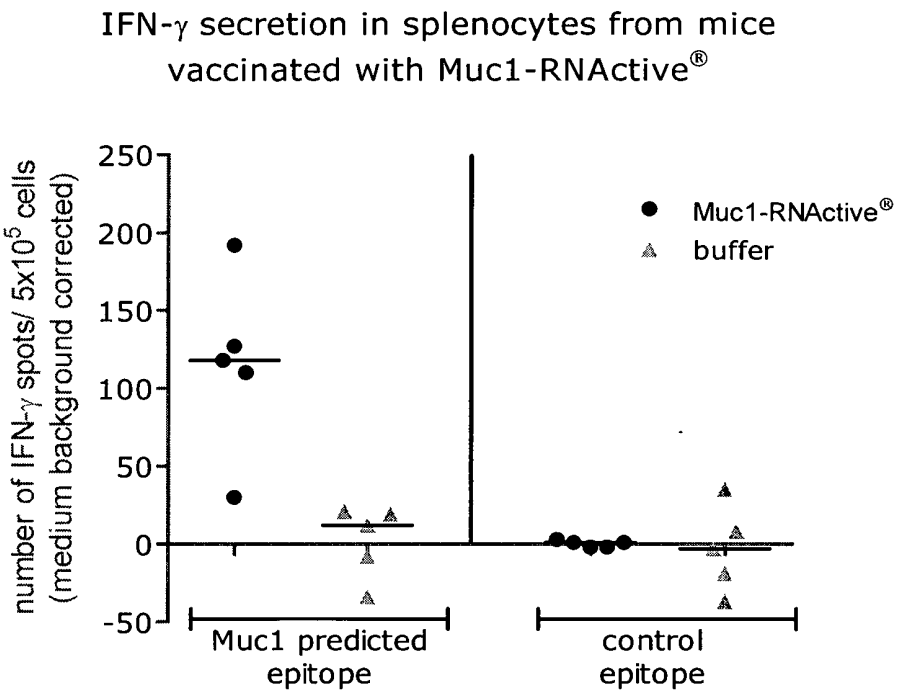

IFN-γ secretion in splenocytes from mice vaccinated with Muc1-RNActive®
number of IFN-γ spots/ 5x10^5 cells (medium background corrected)
250
200
150
100
50
0
-50
Muc1-RNActive®
buffer
Muc1 predicted epitope
control epitope

Fig. 26

CDS KLK3 (GCII) = PSA

AUGUGGGUGCCGGUCGUGUUCCUGACCCUCAGCGUGACGUGGAUCGGCGCCGCGCCCCUGAUCCUGUCGCGG
AUCGUGGGGGGCUGGGAGUGCGAGAAGCACAGCCAGCCCUGGCAGGUGCUGGUGGCCAGCCGCGGCCGGGCC
GUGUGCGGCGGCGUGCUGGUGCACCCCCAGUGGGUGCUGACCGCCGCCCACUGCAUCCGGAACAAGAGCGUC
AUCCUGCUGGGCCGGCACAGCCUGUUCCACCCCGAGGACACCGGCCAGGUGUUCCAGGUGAGCCACAGCUUC
CCCCACCCCCUGUACGACAUGAGCCUCCUGAAGAACCGGUUCCUGCGGCCCGGCGACGACAGCAGCCACGAC
CUGAUGCUGCUGCGGCUGAGCGAGCCCGCCGAGCUGACCGACGCCGUGAAGGUGAUGGACCUGCCGACCCAG
GAGCCCGCCCUGGGCACCACCUGCUACGCCAGCGGCUGGGGGAGCAUCGAGCCCGAGGAGUUCCUCACCCCC
AAGAAGCUGCAGUGCGUGGACCUGCACGUGAUCAGCAACGACGUGUGCGCCCAGGUGCACCCCCAGAAGGUG
ACCAAGUUCAUGCUGUGCGCCGGCCGGUGGACCGGCGGCAAGAGCACCUGCAGCGGCGACAGCGGCGGCCCC
CUGGUCUGCAACGGCGUGCUGCAGGGCAUCACCAGCUGGGGCAGCGAGCCCUGCGCCCUGCCCGAGCGCCCC
AGCCUGUACACCAAGGUGGUGCACUACCGGAAGUGGAUCAAGGACACCAUCGUGGCCAACCCG**UGA**

Fig. 27

CDS FOLH1 (GCII) = PSMA

AUGUGGAACCUGCUCCACGAGACCGACAGCGCCGUGGCGACGGCCCGGCGCCCGCGGUGGCUGUGCGCCGGCGCCCUGGU
CCUGGCCGGGGGCUUCUUCCUGCUGGGCUUCCUGUUCGGCUGGUUCAUCAAGUCGAGCAACGAGGCCACCAACAUCACCC
CCAAGCACAACAUGAAGGCCUUCCUCGACGAGCUGAAGGCCGAGAACAUCAAGAAGUUCCUGUACAACUUCACCCAGAUC
CCCCACCUGGCCGGGACCGAGCAGAACUUCCAGCUGGCCAAGCAGAUCCAGAGCCAGUGGAAGGAGUUCGGCCUGGACUC
GGUGGAGCUGGCGCACUACGACGUGCUGCUCAGCUACCCCAACAAGACCCACCCCAACUACAUCAGCAUCAUCAACGAGG
ACGGCAACGAGAUCUUCAACACCAGCCUGUUCGAGCCCCCGCCCCCCGGCUACGAGAACGUGUCGGACAUCGUGCCCCCC
UUCAGCGCCUUCAGCCCGCAGGGCAUGCCCGAGGGGGACCUGGUGUACGUGAACUACGCCCGGACGGAGGACUUCUUCAA
GCUGGAGCGCGACAUGAAGAUCAACUGCAGCGGCAAGAUCGUGAUCGCCCGGUACGGCAAGGUGUUCCGGGGCAACAAGG
UGAAGAACGCCCAGCUGGCCGGGGCCAAGGGCGUGAUCCUGUACUCGGACCCCGCCGACUACUUCGCCCCCGGCGUGAAG
AGCUACCCCGACGGCUGGAACCUGCCCGGCGGGGGCGUCCAGCGCGGCAACAUCCUCAACCUGAACGGCGCCGGCGACCC
GCUGACCCCCGGGUACCCCGCGAACGAGUACGCCUACCGGCGGGGCAUCGCCGAGGCCGUGGGCCUGCCCAGCAUCCCCG
UGCACCCGAUCGGCUACUACGACGCCCAGAAGCUGCUGGAGAAGAUGGGCGGGAGCGCCCCGCCCGACUCGAGCUGGCGG
GGCAGCCUGAAGGUGCCCUACAACGUGGGCCCCGGCUUCACCGGGAACUUCUCGACCCAGAAGGUGAAGAUGCACAUCCA
CAGCACCAACGAGGUGACCCGCAUCUACAACGUGAUCGGCACCCUGCGGGGCGCCGUGGAGCCCGACCGGUACGUGAUCC
UCGGCGGGCACCGCGACAGCUGGGUGUUCGGCGGCAUCGACCCCCAGAGCGGCGCCGCCGUGGUCCACGAGAUCGUGCGG
UCGUUCGGCACCCUGAAGAAGGAGGGGUGGCGGCCCCGCCGGACGAUCCUGUUCGCCAGCUGGGACGCGGAGGAGUUCGG
CCUGCUGGGCAGCACCGAGUGGGCCGAGGAGAACAGCCGGCUGCUGCAGGAGCGGGGCGUGGCCUACAUCAACGCCGACU
CGAGCAUCGAGGGCAACUACACCCUCCGCGUGGACUGCACCCCGCUGAUGUACAGCCUGGUGCACAACCUGACCAAGGAG
CUGAAGAGCCCCGACGAGGGGUUCGAGGGCAAGUCGCUGUACGAGAGCUGGACCAAGAAGAGCCCCUCGCCCGAGUUCAG
CGGCAUGCCCCGGAUCAGCAAGCUGGGCAGCGGGAACGACUUCGAGGUGUUCUUCCAGCGGCUGGGCAUCGCCUCGGGCC
GCGCCCGGUACACCAAGAACUGGGAGACGAACAAGUUCAGCGGCUACCCCCUCUACCACAGCGUGUACGAGACCUACGAG
CUGGUGGAGAAGUUCUACGACCCCAUGUUCAAGUACCACCUGACCGUGGCCCAGGUGCGGGGCGGGAUGGUGUUCGAGCU
GGCCAACAGCAUCGUGCUGCCCUUCGACUGCCGCGACUACGCCGUCGUGCUGCGGAAGUACGCCGACAAGAUCUACUCGA
UCAGCAUGAAGCACCCCCAGGAGAUGAAGACCUACAGCGUGAGCUUCGACUCGCUGUUCAGCGCGGUGAAGAACUUCACC
GAGAUCGCCAGCAAGUUCUCGGAGCGGCUCCAGGACUUCGACAAGAGCAACCCGAUCGUGCUGCGCAUGAUGAACGACCA
GCUGAUGUUCCUGGAGCGGGCCUUCAUCGACCCCCUGGGCCUGCCCGACCGGCCCUUCUACCGGCACGUGAUCUACGCCC
CCAGCAGCCACAACAAGUACGCCGGCGAGUCGUUCCCGGGGAUCUACGACGCCCUGUUCGACAUCGAGAGCAAGGUGGAC
CCCAGCAAGGCCUGGGGCGAGGUGAAGCGCCAGAUCUACGUGGCCGCCUUCACCGUGCAGGCCGCGGCCGAGACCCUGAG
CGAGGUGGCC**UGA**

Fig. 28

CDS PSCA (GCII)

AUGAAGGCCGUGCUGCUCGCGCUGCUGAUGGCCGGCCUGGCCCUGCAGCCGGGGACCGCCCUGCUGUGCUAC
AGCUGCAAGGCCCAGGUCUCGAACGAGGACUGCCUGCAGGUGGAGAACUGCACGCAGCUGGGCGAGCAGUGC
UGGACCGCCCGGAUCCGCGCCGUGGGCCUGCUCACCGUGAUCAGCAAGGGCUGCAGCCUGAACUGCGUGGAC
GACAGCCAGGACUACUACGUGGGCAAGAAGAACAUCACCUGCUGCGACACCGACCUGUGCAACGCCAGCGGC
GCCCACGCCCUGCAGCCCGCGGCCGCCAUCCUGGCCCUGCUGCCCGCCCUGGGCCUGCUGCUCUGGGGCCCC
GGCCAGCUG**UGA**

Fig. 29

CDS STEAP (GCII)

AUGGAGAGCCGGAAGGACAUCACCAACCAGGAGGAGCUGUGGAAGAUGAAGCCGCGCCGGAACCUCGAGGAG
GACGACUACCUGCACAAGGACACGGGCGAGACCUCGAUGCUGAAGCGGCCCGUGCUCCUGCACCUGCACCAG
ACCGCCCACGCGGACGAGUUCGACUGCCCGAGCGAGCUCCAGCACACGCAGGAGCUGUUCCCGCAGUGGCAC
CUGCCCAUCAAGAUCGCCGCCAUCAUCGCGAGCCUCACCUUCCUGUACACCCUGCUCCGCGAGGUCAUCCAC
CCGCUGGCCACGUCGCACCAGCAGUACUUCUACAAGAUCCCGAUCCUGGUGAUCAACAAGGUGCUCCCCAUG
GUCAGCAUCACCCUGCUGGCCCUCGUGUACCUGCCGGGGGUGAUCGCGGCCAUCGUCCAGCUGCACAACGGC
ACCAAGUACAAGAAGUUCCCGCACUGGCUCGACAAGUGGAUGCUGACGCGGAAGCAGUUCGGCCUGCUCAGC
UUCUUCUUCGCCGUGCUGCACGCGAUCUACUCGCUGAGCUACCCCAUGCGGCGCAGCUACCGGUACAAGCUC
CUGAACUGGGCCUACCAGCAGGUGCAGCAGAACAAGGAGGACGCCUGGAUCGAGCACGACGUCUGGCGGAUG
GAGAUCUACGUGUCGCUGGGGAUCGUGGGCCUCGCGAUCCUGGCCCUGCUCGCCGUCACCAGCAUCCCGAGC
GUGUCGGACAGCCUGACCUGGCGCGAGUUCCACUACAUCCAGAGCAAGCUGGGCAUCGUGUCGCUCCUGCUG
GGGACGAUCCACGCGCUCAUCUUCGCCUGGAACAAGUGGAUCGACAUCAAGCAGUUCGUCUGGUACACCCCG
CCCACCUUCAUGAUCGCCGUGUUCCUGCCGAUCGUGGUCCUGAUCUUCAAGAGCAUCCUCUUCCUGCCGUGC
CUGCGGAAGAAGAUCCUCAAGAUCCGGCACGGCUGGGAGGACGUGACGAAGAUCAACAAGACCGAGAUCUGC
AGCCAGCUG**UGA**

Fig. 30

PSA Protein NP_001639.1

mwvpvvfltl svtwigaapl ilsrivggwe cekhsqpwqv lvasrgravc ggvlvhpqwv
ltaahcirnk svillgrhsl fhpedtgqvf qvshsfphpl ydmsllknrf lrpgddsshd
lmllrlsepa eltdavkvmd lptqepalgt tcyasgwgsi epeefltpkk lqcvdlhvis
ndvcaqvhpq kvtkfmlcag rwtggkstcs gdsggplvcn gvlqgitswg sepcalperp
slytkvvhyr kwikdtivan p

Fig. 31

PSMA (FOLH1) Protein NP_004467.1

mwnllhetds avatarrprw lcagalvlag gffllgflfg wfikssneat nitpkhnmka
fldelkaeni kkflynftqi phlagteqnf qlakqiqsqw kefgldsvel ahydvllsyp
nkthpnyisi inedgneifn tslfeppppg yenvsdivpp fsafspqgmp egdlvyvnya
rtedffkler dmkincsgki viarygkvfr gnkvknaqla gakgvilysd padyfapgvk
sypdgwnlpg ggvqrgniln lngagdpltp gypaneyayr rgiaeavglp sipvhpigyy
daqkllekmg gsappdsswr gslkvpynvg pgftgnfstq kvkmhihstn evtriynvig
tlrgavepdr yvilgghrds wvfggidpqs gaavvheivr sfgtlkkegw rprrtilfas
wdaeefgllg stewaeensr llqergvayi nadssiegny tlrvdctplm yslvhnltke
lkspdegfeg kslyeswtkk spspefsgmp risklgsgnd fevffqrlgi asgrarytkn
wetnkfsgyp lyhsvyetye lvekfydpmf kyhltvaqvr ggmvfelans ivlpfdcrdy
avvlrkyadk iysismkhpq emktysvsfd slfsavknft eiaskfserl qdfdksnpiv
lrmmndqlmf lerafidplg lpdrpfyrhv iyapsshnky agesfpgiyd alfdieskvd
pskawgevkr qiyvaaftvq aaaetlseva

Fig. 32

PSCA Protein O43653.1

mkavllallm aglalqpgta llcysckaqv snedclqven ctqlgeqcwt ariravgllt viskgcslnc vddsqdyyvg kknitccdtd lcnasgahal qpaaailall palglllwgp gql

Fig. 33

STEAP Protein NP_036581.1

mesrkditnq eelwkmkprr nleeddylhk dtgetsmlkr pvllhlhqta hadefdcpse
lqhtqelfpq whlpikiaai iasltflytl lrevihplat shqqyfykip ilvinkvlpm
vsitllalvy lpgviaaivq lhngtkykkf phwldkwmlt rkqfgllsff favlhaiysl
sypmrrsyry kllnwayqqv qqnkedawie hdvwrmeiyv slgivglail allavtsips
vsdsltwref hyiqsklgiv slllgtihal ifawnkwidi kqfvwytppt fmiavflpiv
vlifksilfl pclrkkilki rhgwedvtki nkteicsql

Fig. 34

PAP Protein NP_001090.2

mraaplllar aaslslgflf llffwldrsv lakelkfvtl vfrhgdrspi dtfptdpike
sswpqgfgql tqlgmeqhye lgeyirkryr kflnesykhe qvyirstdvd rtlmsamtnl
aalfppegvs iwnpillwqp ipvhtvplse dqllylpfrn cprfqelese tlkseefqkr
lhpykdfiat lgklsglhgq dlfgiwskvy dplycesvhn ftlpswated tmtklrelse
lsllslygih kqkeksrlqg gvlvneilnh mkratqipsy kklimysahd ttvsglqmal
dvyngllppy aschltelyf ekgeyfvemy yrnetqhepy plmlpgcsps cplerfaelv
gpvipqdwst ecmttnshqg tedstd

Fig. 35

MUC1 Protein J05582.1

mtpgtqspff lllllvltv vtgsghasst pggeketsat qrssvpsste knavsmtssv
lsshspgsgs sttqgqdvtl apatepasgs aatwgqdvts vpvtrpalgs ttppahdvts
apdnkpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
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apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdtrpapgs tappahgvts
apdtrpapgs tappahgvts apdtrpapgs tappahgvts apdnrpalgs tappvhnvts
asgsasgsas tlvhngtsar atttpaskst pfsipshhsd tpttlashst ktdassthhs
svppltssnh stspqlstgv sffflsfhis nlqfnssled pstdyyqelq rdisemflqi
ykqggflgls nikfrpgsvv vqltlafreg tinvhdvetq fnqykteaas rynltisdvs
vsdvpfpfsa qsgagvpgwg iallvlvcvl valaivylia lavcqcrrkn ygqldifpar
dtyhpmseyp tyhthgryvp psstdrspye kvsagnggss lsytnpavaa asanl

Fig. 36

MUC1 Protein 5xVNTR

M T P G T Q S P F F L L L L T V L T V V T G S G H A S S T
P G G E K E T S A T Q R S S V P S S T E K N A V S M T S S V
L S S H S P G S G S S T T Q G Q D V T L A P A T E P A S G S
A A T W G Q D V T S V P V T R P A L G S T T P P A H D V T S
A P D N K P A P G S T A P P A H G V T S A P D T R P A P G S
T A P P A H G V T S A P D T R P A P G S T A P P A H G V T S
A P D T R P A P G S T A P P A H G V T S A P D T R P A P G S
T A P P A H G V T S A P D T R P A P G S T A P P A H G V T S
A P D N R P A L G S T A P P V H N V T S A S G S A S G S A S
T L V H N G T S A R A T T T P A S K S T P F S I P S H H S D
T P T T L A S H S T K T D A S S T H H S S V P P L T S S N H
S T S P Q L S T G V S F F F L S F H I S N L Q F N S S L E D
P S T D Y Y Q E L Q R D I S E M F L Q I Y K Q G G F L G L S
N I K F R P G S V V V Q L T L A F R E G T I N V H D V E T Q
F N Q Y K T E A A S R Y N L T I S D V S V S D V P F P F S A
Q S G A G V P G W G I A L L V L V C V L V A L A I V Y L I A
L A V C Q C R R K N Y G Q L D I F P A R D T Y H P M S E Y P
T Y H T H G R Y V P P S S T D R S P Y E K V S A G N G G S S
L S Y T N P A V A A A S A N L

Fig. 37

MUC1 CDS (wt)

ATGACACCGGGCACCCAGTCTCCTTTCTTCCTGCTGCTGCTCCTCACAGTGCTTACAGTT
GTTACAGGTTCTGGTCATGCAAGCTCTACCCCAGGTGGAGAAAAGGAGACTTCGGCTACC
CAGAGAAGTTCAGTGCCCAGCTCTACTGAGAAGAATGCTGTGAGTATGACCAGCAGCGTA
CTCTCCAGCCACAGCCCCGGTTCAGGCTCCTCCACCACTCAGGGACAGGATGTCACTCTG
GCCCCGGCCACGGAACCAGCTTCAGGTTCAGCTGCCACCTGGGGACAGGATGTCACCTCG
GTCCCAGTCACCAGGCCAGCCCTGGGCTCCACCACCCCGCCAGCCCACGATGTCACCTCA
GCCCCGGACAACAAGCCAGCCCCGGGCTCCACCGCCCCCCCAGCCCACGGTGTCACCTCG
GCCCCGGACACCAGGCCG

GCCCCGGACACCAGGCCGGCCCCGGGCTCCACCGCCCCCCCAGCCCATGGTGTCACCTCG
GCCCCGGACAACAGGCCCGCCTTGGGCTCCACCGCCCCTCCAGTCCACAATGTCACCTCG
GCCTCAGGCTCTGCATCAGGCTCAGCTTCTACTCTGGTGCACAACGGCACCTCTGCCAGG
GCTACCACAACCCCAGCCAGCAAGAGCACTCCATTCTCAATTCCCAGCCACCACTCTGAT
ACTCCTACCACCCTTGCCAGCCATAGCACCAAGACTGATGCCAGTAGCACTCACCATAGC
TCGGTACCTCCTCTCACCTCCTCCAATCACAGCACTTCTCCCCAGTTGTCTACTGGGGTC
TCTTTCTTTTTCCTGTCTTTTCACATTTCAAACCTCCAGTTTAATTCCTCTCTGGAAGAT
CCCAGCACCGACTACTACCAAGAGCTGCAGAGAGACATTTCTGAAATGTTTTTGCAGATT
TATAAACAAGGGGGTTTTCTGGGCCTCTCCAATATTAAGTTCAGGCCAGGATCTGTGGTG
GTACAATTGACTCTGGCCTTCCGAGAAGGTACCATCAATGTCCACGACGTGGAGACACAG
TTCAATCAGTATAAAACGGAAGCAGCCTCTCGATATAACCTGACGATCTCAGACGTCAGC
GTGAGTGATGTGCCATTTCCTTTCTCTGCCCAGTCTGGGGCTGGGGTGCCAGGCTGGGGC
ATCGCGCTGCTGGTGCTGGTCTGTGTTCTGGTTGCGCTGGCCATTGTCTATCTCATTGCC
TTGGCTGTCTGTCAGTGCCGCCGAAAGAACTACGGGCAGCTGGACATCTTTCCAGCCCGG
GATACCTACCATCCTATGAGCGAGTACCCCACCTACCACACCCATGGGCGCTATGTGCCC
CCTAGCAGTACCGATCGTAGCCCCTATGAGAAGGTTTCTGCAGGTAACGGTGGCAGCAGC
CTCTCTTACACAAACCCAGCAGTGGCAGCCGCTTCTGCCAACTTGTAG

Fig. 38