

Supplementary Figure S1

D46N

G63R

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HOMO SAPIENS EGFR KVCQGTSNKLTLQGLTFEDHFLSLQRMFNCCVVLGN-LEITYVQ-RNYDL 76
HOMO SAPIENS HER2 (ERBB2) QVCTGTDMLKRLPASPBTHLDMLRHLKYGGQVVQGN-LELYLP-TNASL 71
HOMO SAPIENS HER3 (ERBB3) AVCPTGLNGLSVTGDABNQYQTLKLYERCEVVMGN-LEIVLTG-HNADL 74
HOMO SAPIENS ERBB4 SVCAGTENKLSLSDLEQQYRALRKYENCCVVMGN-LEITSIE-HNRDL 74
MUS MUSCULUS KVCQGTSNRLTLQGLTFEDHFLSLQRMFNCCVVLGN-LEITYVQ-RNYDL 76
RATTUS NORVEGICUS KVCQGTSNRLTLQGLTFEDHFLSLQRMFNCCVVLGN-LEITYVQ-RNYDL 76
SUS SCROFA KVCQGTSNKLTLQGLTFEDHFLSLQRMFNCCVVLGN-LEITYM-QNSYL 76
DANIO RERIO KVCQGANNKLTLLGTVDHYQVLLRMYRNCTVPLEN-LEITHIT-EKYDL 73
DROSOPHILA MELANOGASTER KVCIGTKSRSLVSPNKBHMYRNLRDRYTNCTYVDGN-LELTWLPNENLDL 99
XIPHOPHORUS (XMRK) KVCQGTSNQMTML---DNHYLKMKKMYSGCNVVLENTLEITYTQ-ENQDL 73
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R108K

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HOMO SAPIENS EGFR SFLKTIQEVAGYVLIALLNTVERIPLLENLQIRGNMYEENSALAVLSNYG 126
HOMO SAPIENS HER2 (ERBB2) SFLQDIQEVQGYVLIANQVRQVPLQRLRIVRGTQLFEDNYALAVLDNGD 121
HOMO SAPIENS HER3 (ERBB3) SFLQWIREVTGYVLVAMNEFSTLPLNLRVVRGTQVYDQKFAIFVMLNLYN 124
HOMO SAPIENS ERBB4 SFLRSVREVTGYVLVALNQFRYLPLENLRIIRGTKLYEDRYALAIPLNLYR 124
MUS MUSCULUS SFLKTIQEVAGYVLIALLNTVERIPLLENLQIRGNALYENTYALAILSNYG 126
RATTUS NORVEGICUS SFLKTIQEVAGYVLIALLNTVERIPLLENLQIRGNALYENTYALAVLSNYG 126
SUS SCROFA SFLKTIQEVAGYVLIALLNTVEKIPLLENLQIRGNVLYENTHALAVLSNYG 126
DANIO RERIO SFLKSIQEVGGYVLIANTVSKIPLLENLRIIRGHSLYEDKFAIPLVNFN 123
DROSOPHILA MELANOGASTER SFLDNIREVTGYLILSHVDVKKVVPKQLQIRGRTLSVSEVEEKYALFV 149
XIPHOPHORUS (XMRK) SFLQSIQEVGGYVLIAMNEVSTIPLVNLRLIRGNLYEGNFTLLVMSNYQ 123
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T263P

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HOMO SAPIENS EGFR QQCSG-RCRGKSPSDCCHNQCAAGCTGPRESDCLVCRKFRDEATCKDTC 265
HOMO SAPIENS HER2 (ERBB2) GGCA--RCGKPLPTDCHEQCAAGCTGPKHSDCLACLFHNHSGICELHCP 269
HOMO SAPIENS HER3 (ERBB3) PQCNG-HCFGPNPQCCHDECAGGCSGPDQDTCFACRHFNDSGACVPRCP 260
HOMO SAPIENS ERBB4 EQCDG-RCYGPVSDCCHRECAGGCSGPKDQDTCFACMNFNDSGACVTPCP 263
MUS MUSCULUS QQCSH-RCRGRSPSDCCHNQCAAGCTGPRESDCLVQCFQDEATCKDTC 265
RATTUS NORVEGICUS QQCSR-RCRGRSPSDCCHNQCAAGCTGPRESDCLVCHRFRDEATCKDTC 265
SUS SCROFA QQCSG-RCRGRSPSDCCHNQCAAGCTGPRESDCLVCRFRFRDEATCKDTC 265
DANIO RERIO EQCSG-RCKGPRP-IDCCNEHCAAGCTGPRPTDCLACKDFQDEGTCCKD 263
DROSOPHILA MELANOGASTER PQCAGGRCYGPKPRECHLFCAGGCTGPTQKDCIACKNFFDEGVKCEP 287
XIPHOPHORUS (XMRK) EQCNR-RCRGPKP-IDCCNEHCAAGCTGPRATDCLACRDFNDDGTCCKDTC 268
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A289D/T/V

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HOMO SAPIENS EGFR PLMLYNPTTYQMDVNPPEGKYSFGATCVKCKPRNYVVDHSGCVRACGADS 315
HOMO SAPIENS HER2 (ERBB2) ALVTYNTDTEFESMPNPEGRYTFGASCVTACPNYVLDVGSCTLVCLPHN 319
HOMO SAPIENS HER3 (ERBB3) QPLVYNKLTQLEPNHHTKYQYGCVCVASCPHNFVVDQT-SCVRACPPDK 309
HOMO SAPIENS ERBB4 QTFVYNPTTFQLEHNFNAKYTYGAFVCKKCPHNFVVDSS-SCVRACPPSK 312
MUS MUSCULUS PLMLYNPTTYQMDVNPPEGKYSFGATCVKCKPRNYVVDHSGCVRACGPDY 315
RATTUS NORVEGICUS PLMLYNPTTYQMDVNPPEGKYSFGATCVKCKPRNYVVDHSGCVRACGPDY 315
SUS SCROFA PLMLYNPTTYQMDVNPPLGKYSFGATCVKCKPRNYVVDHSGCVRACSSDS 315
DANIO RERIO RLMLYDPNTHQLAPNPYGYKYSFGATCIKTCPHNYVVDHGCACVRTCSPGT 313
DROSOPHILA MELANOGASTER PMRKYNPPTYVLETNPEGKYAYGATCVKECPG-HLLRDNGACVRSRCPQDK 336
XIPHOPHORUS (XMRK) PPKLYDIVSHQVVDNPNIKYTFGAAACVKECPSNYVVTG-ACVRSACSM 317
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R324L E330K

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HOMO SAPIENS EGFR YEME-EDGVRKCKKCEGPCRKVCNGIGIGEFKDSLSINATNIKHFKNCTS 364
HOMO SAPIENS HER2 (ERBB2) QEVTAEDGTQRCCKCSKPCARVCYGLGMEHLREVRVTSANIQEFAGCKK 369
HOMO SAPIENS HER3 (ERBB3) MEVD-KNGLKMCEPCGGLCPKACEGTGSGSRF--QTVSSNIDGDFVNTK 356
HOMO SAPIENS ERBB4 MEVE-ENGLKMKCKPCTDICKKACDGIPTGSLMSAQTVSSNIDKFINCTK 361
MUS MUSCULUS YEVE-EDGIRKCKKCDGPCRKVCNGIGIGEFKDTLSINATNIKHFYCTA 364
RATTUS NORVEGICUS YEVE-EDGVSCKCKCDGPCRKVCNGIGIGEFKDTLSINATNIKHFYCTA 364
SUS SCROFA YEVE-EDGVRKCKKCDGPCRKVCNGIGIGEFKDTLSINATNIKHFNCTS 364
DANIO RERIO YEVD-EGGVRKCKRCEGLCPKVCNGLGMPLANVLSINATNIDSFENCTK 362
DROSOPHILA MELANOGASTER MDKG----GECVPCNGPCPKTCPGVT-----VLHAGNIDSFNCTV 373
XIPHOPHORUS (XMRK) LEVD-ENGRKRSCKPCDGVCPKVCNIGIGISLNTIAVNSTNIGSFSNCTK 366
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P596L

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HOMO SAPIENS EGFR CIQCHPECLPQAM-NITCTGRGPDNCIQCAHYIDGPHCVKTC 596
HOMO SAPIENS HER2 (ERBB2) CLPCHPECPQNG-SVTCFGEADQCVCAHYKDPDFCVARCP 601
HOMO SAPIENS HER3 (ERBB3) CFSCHPECPQMEG-TATCNGSGSDTCAQCAHFRDGPCHVSSCP 590
HOMO SAPIENS ERBB4 CVECDPQCEKMGDGLLTCGPGPDNCTKCSHFKDGPNCEKCP 594
MUS MUSCULUS CIQCHPECLPQAM-NITCTGRGPDNCIQCAHYIDGPHCVKTC 596
RATTUS NORVEGICUS CIQCHPECLPQTM-NITCTGRGPDNCIKCAHYVDGPHCVKTC 596
SUS SCROFA CVQCHPECLPQAK-NVTCMGRGPDSCVCAHYIDGPHCVKTC 596
DANIO RERIO CMECDPECLLMNE-TQTCNCGPGDKCTVCANIKDGPCHVHRCP 594
DROSOPHILA MELANOGASTER CKICHPECR-----TCNAGADHCQCEVHVRDGGHCVSECPKKNYNDR 613
XIPHOPHORUS (XMRK) CVQCHQECLVQTD-SLTCYGPANCSKCAHFQDGPQICPRCP 591
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G598V

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HOMO SAPIENS EGFR -----AGVMGENNTL-V----- 607
HOMO SAPIENS HER2 (ERBB2) -----SGVKPDLSEYMPI----- 613
HOMO SAPIENS HER3 (ERBB3) -----HGVLGARGPT----- 600
HOMO SAPIENS ERBB4 -----DGLQGANFSI----- 604
MUS MUSCULUS -----ACIMGENNTL-V----- 607
RATTUS NORVEGICUS -----SGIMGENNTL-V----- 607
SUS SCROFA -----AGIAGENSTL-I----- 607
DANIO RERIO -----GGVPEKDTL-I----- 605
DROSOPHILA MELANOGASTER GVCRECHATCGCTGPKDTIGIGACTTCNLAIINNDATVKRLLKDDKCP 663
XIPHOPHORUS (XMRK) -----HMLGDGDTL-I----- 602
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L861Q

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HOMO SAPIENS EGFR RDLAARNVLVKTPOHVKITDFGLAKLLGAEKEYHAEGGKVPKWMMALES 885
HOMO SAPIENS HER2 (ERBB2) RDLAARNVLKSPNHVKITDFGLARLLDIDETEYHADGGKVPKWMMALES 893
HOMO SAPIENS HER3 (ERBB3) RNLAARNVLLKSPSQVQVADDFGVADLPPDDKQLLYSEAKTPIKWMMALES 882
HOMO SAPIENS ERBB4 RDLAARNVLKSPNHVKITDFGLARLLGAEKEYHADGGKVPKWMMALES 891
MUS MUSCULUS RDLAARNVLVKTPOHVKITDFGLAKLLGAEKEYHAEGGKVPKWMMALES 887
RATTUS NORVEGICUS RDLAARNVLVKTPOHVKITDFGLAKLLGAEKEYHAEGGKVPKWMMALES 886
SUS SCROFA RDLAARNVLVKTPOHVKITDFGLAKLLGAEKEYHAEGGKVPKWLALLES 885
DANIO RERIO RDLAARNVLVKTPOHVKITDFGLAKLLNADEKEYHADGGKVPKWMMALES 884
DROSOPHILA MELANOGASTER RDLAARNVLVQTPSLVKITDFGLAKLLSSDSNEYKAAGGKMPKWLALLEC 1062
XIPHOPHORUS (XMRK) RDLAARNVLLKSPNHVKITDFGLSKLLTADEKEYQADGGKVPKWMMALES 880
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