

Division of Signal Transduction Therapy

Clone Data Sheet

PI3 kinase alpha H1047R [2 – 1068] / p85 [1 - 724]

Protein PI3 kinase alpha H1047R [2 - 1068] / p85 [1 – 724]
Clone number DU 12759
Species Human
Accession number PI3 kinase alpha U79143 / p85 NM_181523
Tags N-terminal His(6)

**Baculovirus
expressed
PI3 kinase alpha**

MHHHHHPPRPSSGELWGIHLMPPRILVECLLPNGMIVTLECLR
EATLITIKHELKFKEARKYPLHQLLQDESSYIFVSVTQEAEREFF
FDETRRLCDLRLFQPFVKVIEPVGNREEKILNREIGFAIGMPVC
EFDMVKDPEVQDFRNLNVCKEAVDLRDLNSPHSRAMYVYPPN
VESSPELPKHIYNKLDKGQIVVIWVIVSPNNDKQKYTLKINH
CVPEQVIAEAIRKKTRSMLLSSEQLKLCVLEYQGYILKVCDC
EYFLEKYPLSQYKYIRSCIMLGRMPNMLMAKESLYSQLPMDCF
TMPSYSRRISTATPYMNGETSTKSLWVINSALRIKILCATYVNV
NIRDIDKIYVRTGIYHGGEPLCDNVNTQRPVPCSNPRWNEWLN
IYIPDLPRAARLCLSI CSVKGRKGAKKEHCPLAWGNINLFDYTD
TLVSGKMALNLWPVPHGLEDLLNP IGVTGSNPNKETPCLELEFD
WFSSVVKFPDMSVIEEHANWSVSREAGFSYSHAGLSNRLARDNE
LRENDKEQLKAISTRDPLSEITEQEKDFLWSHRHYCVTIPEILP
KLLLSVKWNSRDEVAQMYCLVKDWPP IKPEQAMELLDCNYPDPM
VRGFAVRCLEKYLTDKLSQYLIQLVQVLKYEQYLDNLLVRFLL
KKALTNQRIGHFFFWHLKSEMHNKTVSQRFGLLLESYCRACGM
LKHLNRQVEAMEKLIINLTDILKQEKKDETKVQVMKFLVEQMRRP
DFMDALQGFSLPNPAHQGNLRLEECRIMSSAKRPLWLNWENP
DIMSELLFQNEIIFKNGDDLQDMLTLQIIRIMENIWQNQGLD
LRMLPYGCLSIGDCVGLIEVVRNSHTIMQIQCKGGLK GALQFNS
HTLHQWLKDNKGEIYDAAIDLFTTRSCAGYCVATFILGIGDRHN
SNIMVKDDGQLFHIDFGHFLDHKKKFGYKRERVPFVLTQDFLI
VISKGAQECTKTREFERFQEMCYKAYLAIRQHANLFINLFSMML
GSGMPELQSFDDIAYIRKTLALDKTEQEALEYFMKQMNDA RHGG
WTTKMDWIFHTIKQHALN

Native sequence Amino acids P2 – N1068 (end residue) of human PI3 kinase alpha. Residue P8 of the fusion protein is equivalent to P2 of the native enzyme. The enzyme has an H1047R mutation found in many types of cancers. Residue H1047 is equivalent to R1053 The His(6) tag is

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located at residues 2 - 7.

Baculovirus expressed p85

MSAEGYQYRALYDYKKEREEDIDLHLGDILTVNKGSLVALGFSDG
QEARPEEIGWLNNGYNETTGERGDFPGTYVEYIGRKKISPPTPKPR
PPRPLPVAPGSSKTEADVEQQALTLPDLAEQFAPPDIAPPLLIK
VEAIEKKGLECSTLYRTQSSSNLAELRQLLDCTPSVDLEMIDVH
VLADAFKRYLLDLPNPVIPAAYSEMI SLAPEVQSSEYIQLLKK
LIRSPSIPHQYWLTLOYLLKHFFKLSQTSSKNLLNARVLSEIFSP
MLFRFSAASSDNTENLIKVIEILISTEWNERQPAPALPPKPPKPT
TVANNGMNNMNSLQDAEWYWGDISREEVNEKLRDTADGTFLVRDA
STKMHGDYTLTLRKGNNKLIKIFHRDGKYGFSPLTFSSVVELI
NHYNESLAQYNPKLDVKLLYPVSKYQQDQVVKEDNIEAVGKKLH
EYNTQFQEKREYDRLYEYTRTSQEIOMKRTAIEAFNETIKIFE
EQCQTQERYSKEYIEKFKREGNEKEIQRIMHNYDKLKSRISEIID
SRRLEEDLKKQAAEYREIDKRMNSIKPDLIQLRKTDRDQYLMWLT
QKGVROKKLNEWLGNENTEDQYSLVEDDEDLPHHDEKTWNVGSSN
RNKAENLLRGKRDGTFLVRESSKQGCYACSVVVDGEVKHCVINKT
ATGYGFAEPYNLYSSLKELVLHYQHTSLVQHNDLNVTLAYPVYA
QQR

Native sequence p85

Amino acids M1 – R724 (end residue) of human p85.

Cloning Sites

*Xho*1 and *Kpn*1 (insert 1, PI3 kinase alpha) and *Bam*H1 and *Spe*1 (insert 2, p85) sites of pFastBAC Dual

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Nucleotide sequence of insert

ATGCACCATCACCATCACCATCCTCCAAGACCATCATCAGGTGAACGTGTTGGGGC
ATCCACTTGATGCCCCCAAGAATCCTAGTAGAATGTTTACTACCAAATGGAATG
ATAGTGACTTTAGAATGCCTCCGTGAGGCTACATTAATAACCATAAAGCATGAA
CTATTTAAAGAAGCAAGAAAATACCCCTCCATCAACTTCTTCAAGATGAATCT
TCTTACATTTTCGTAAGTGTACTCAAGAAGCAGAAAGGGAAGAATTTTTTGAT
GAAACAAGACGACTTTGTGACCTTCGGCTTTTTCAACCCTTTTTAAAAGTAATT
GAACCAGTAGGCAACCGTGAAGAAAAGATCCTCAATCGAGAAATGGTTTTGCT
ATCGGCATGCCAGTGTGTGAATTTGATATGGTTAAAGATCCAGAAGTACAGGAC
TTCCGAAGAAATATTCTGAACGTTTGTAAAGAAGCTGTGGATCTTAGGGACCTC
AATTCACCTCATAGTAGAGCAATGTATGTCTATCCTCCAATGTAGAATCTTCA
CCAGAATTGCCAAAGCACATATATAATAAATTAGATAAAGGGCAAATAATAGTG
GTGATCTGGGTAATAGTTTCTCCAATAATGACAAGCAGAAGTATACTCTGAAA
ATCAACCATGACTGTGTACCAGAACAAGTAATTGCTGAAGCAATCAGGAAAAAA
ACTCGAAGTATGTTGCTATCCTCTGAACAACATAAACTCTGTGTTTTAGAATAT
CAGGGCAAGTATATTTAAAAGTGTGTGGATGTGATGAATACTTCTTAGAAAA
TATCCTCTGAGTCAGTATAAGTATATAAGAAGCTGTATAATGCTTGGGAGGATG
CCCAATTTGATGTTGATGGCTAAAGAAAGCCTTTATCTCAACTGCCAATGGAC
TGTTTTACAATGCCATCTTATCCAGACGCATTTCCACAGCTACACCATATATG
AATGGAGAAACATCTACAAAATCCCTTTGGGTTATAAATAGTGCCTCAGAATA
AAAATTCCTTTGTGCAACCTACGTGAATGTAATATTCGAGACATTGATAAGATC
TATGTTTCAACAGGTATCTACCATGGAGGAGAACCCTTATGTGACAATGTGAAC
ACTCAAAGAGTACCTTGTCCAATCCCAGGTGGAATGAATGGCTGAATTTATGAT
ATATACATTCCTGATCTTCTCGTGCTGCTCGACTTTGCCTTTCCATTTGCTCT
GTTAAAGGCCGAAAGGGTGCTAAAGAGGAACACTGTCCATTTGGCAGGGAAAT
ATAAACTTGTGTTGATTACACAGACACTCTAGTATCTGGAAAAATGGCTTTGAAT
CTTTGGCCAGTACCTCATGGATTAGAAGATTTGCTGAACCCTATTGGTGTACT
GGATCAAATCCAAATAAAGAAACTCCATGCTTAGAGTTGGAGTTTACTGGTTT
AGCAGTGTGGTAAAGTTCCCAGATATGTCAGTGATTGAAGAGCATGCCAATTGG
TCTGTATCCCAGAGCAGGATTTAGCTATTTCCACGCAGGACTGAGTAACAGA
CTAGCTAGAGACAATGAATTAAGGGAAAATGACAAAGAACAGCTCAAAGCAATT
TCTACACGAGATCCTCTCTGAAATCACTGAGCAGGAGAAAGATTTTCTATGG
AGTCACAGACACTATTGTGTAACATATCCCCGAAATTCACCCAAATTGCTTCTG
TCTGTTAAATGGAATTCAGAGATGAAGTAGCCAGATGTATTGCTTGGTAAAA
GATTGGCCTCCAATCAAACCTGAACAGGCTATGGAACCTCTGGACTGTAATTAC
CCAGATCCTATGGTTCGAGGTTTTGCTGTTCCGGTCTTGGAAAAATATTTAACA
GATGACAAACTTCTCAGTATTTAATTCAGCTAGTACAGGTCCTAAAATATGAA
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CAAAGGATTGGGCATTTTTCTTTTGGCATTAAAAATCTGAGATGCACAATAAA
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CAAATTCAGTGCAAAGGCGGCTTGAAGGTGCACTGCAGTTCAACAGCCACACA
CTACATCAGTGGCTCAAAGACAAGAACAAGGAGAAATATATCATGTCAGCCATT
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CGAGAACGTGTGCCATTTGTTTTGACACAGGATTTCTTAATAGTGATTAGTAAA
GGAGCCCAAGAATGCACAAAGACAAGAGAATTTGAGAGGTTTCAGGAGATGTGT
TACAAGGCTTATCTAGCTATTCGACAGCATGCCAATCTCTTCATAAATCTTTTC
TCAATGATGCTTGGCTCTGGAATGCCAGAACTACAATCTTTTGATGACATTGCA

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TACATTCGAAAGACCCTAGCCTTAGATAAAAAC TGAGCAAGAGGCTTTGGAGTAT
TTCATGAAACAAATGAATGATGCACGTCATGGTGGCTGGACAACAAAATGGAT
TGGATCTTCCACACAATTA AACAGCATGCATTGAACTgaggtacc

ATGAGTGCTGAGGGGTACCAGTACAGAGCGCTGTATGATTATAAAAAGGAAAGA
GAAGAAGATATTGACTTGC ACTTGGGTGACATATTGACTGTGAATAAAGGGTCC
TTAGTAGCTCTTGGATT CAGTGATGGACAGGAAGCCAGGCCTGAAGAAATTGGC
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CAGCAGAGGCGAtgaactagt