

Certificate of Analysis

PIK3CB/PIK3R2 (p110 beta/p85 beta), 100 µg

PIK3CB/PIK3R2, recombinant human, full-length, HIS tagged

ThermoFisher
SCIENTIFIC

Part Number: A32910

Lot Number: 2354477

Immediate Storage: -80°C

Shipping Conditions: dry ice

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Description:

Recombinant human full-length active PIK3CB/PIK3R2 (p110 beta/p85 beta) were co-expressed in insect cells using N-terminal HIS tags on both proteins.

PIK3CB/PIK3R2 lipid kinase (p110 beta/p85 beta) or Phosphatidylinositol 3-kinase (PI3K) phosphorylate the 3-prime OH position of the inositol ring of inositol lipids which functions in signaling pathways that regulate cell growth by virtue of their activation in response to various mitogenic stimuli. PI3Ks are composed of a 110-kDa catalytic subunit and a 85-kDa adaptor subunit. PIK3CB plays a critical role in regulating the formation and stability of alpha-2B-beta-3 integrin adhesion bonds, which are necessary for shear force-induced platelet activation. PIK3CB sustains alpha-2B-beta-3 integrin activation and stabilized platelet aggregation by regulating both integrin-dependent calcium flux and Gi activation of RAP1B.

Accession Numbers:

The gene accession number for PIK3CB is NP_006210.1 and for PIK3R2 is NP_852664.1.

Specific Activity:

360 nmoles of phosphate transferred to Phosphatidylinositol (4,5) bis-phosphate (PI(4,5)P₂) substrate per minute per mg of total protein at 30°C.

Concentration:

0.05 mg/mL as determined by densitometry of the kinase gel band(s).

Calculated **241 nM**.

Aliases:

PIK3CB; p110b, PI3K, PIK3C1, PI3Kbeta, MGC133043, p110-BETA, DKFZp779K1237

PIK3R2; p85b, P85B, p85-BETA

Storage and Handling:

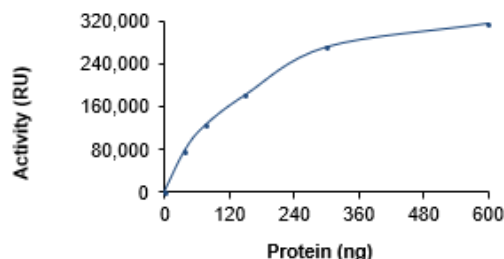
For maximum recovery please spin prior to use. Unless noted below, aliquots of the 5 ug, 10ug and 20ug sizes of kinase are not recommended as materials can be used in original packaging until exhausted. For larger sizes, the number of freeze/thaws may be reduced by preparing aliquots, aliquots below 20 µL are not recommended. **Please never store a kinase diluted.** If properly stored at -80°C, this product is guaranteed for 6 months from date of purchase.

Storage Buffer:

50 mM Sodium Phosphate (pH 7.0), 300 mM NaCl, 150 mM Imidazole, 0.1 mM PMSF, 0.25 mM DTT and 25% Glycerol.

QUALITY ASSURANCE

PIK3CB/PIK3R2 (p110 beta/p85 beta) Activity Graph



Dilution Buffer:

5 mM MOPS (pH 7.2), 2.5 mM β-glycerol-phosphate, 5 mM MgCl₂, 1 mM EGTA, 0.4 mM EDTA and 50 ng/µL BSA.

Assay Conditions:

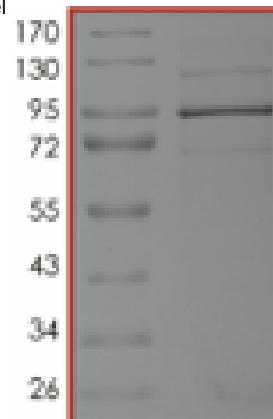
PIK3CB/PIK3R2 (p110 beta/p85 beta) was pre-diluted in enzyme dilution buffer and assayed in 5 mM MOPS (pH 7.2), 2.5 mM β-glycerol-phosphate, 5 mM MgCl₂, 0.4 mM EDTA, 1 mM EGTA, 0.05 mM DTT, with 50 µM ATP in an ADP accumulation assay using Phosphatidylinositol (4,5) bis-phosphate (PI(4,5)P₂)/PS substrate at 25 and 200 µM for 15 minutes at 30°C.

Gel Information for PIK3CB/PIK3R2 (p110 beta/p85 beta)

Page Description: Run on an SDS-PAGE gel and stained with Coomassie®.

Lane 1: Molecular Weight markers as labeled.

Lane 2: PIK3CB/PIK3R2 (p110 beta/p85 beta)



Purity:

> 90% as determined by a Coomassie® blue stained SDS-PAGE gel.

Molecular Weight:

123.7 / 83.5 kDa. Calculated from the protein sequence(s).

Protein sequence alignment with reference sequence(s)

GenBank Accession Number: NP_006210.1

1 MHHHHHMCFSFIMPPAMADILDIWAVDSQIASDGSIPVDFLLPTGIYIQLEVPREATISYIKQMLWKQVHNYPMFNLLMDIDSYMFACVNQTAVYEELE Life PIK3CB
1 M-----CFSFIMPPAMADILDIWAVDSQIASDGSIPVDFLLPTGIYIQLEVPREATISYIKQMLWKQVHNYPMFNLLMDIDSYMFACVNQTAVYEELE NP_006210.1

101 DETRRLCDVRPFLPVLKLVTRSCDPGEKLDISKIGVLIGKGLHEFDSLKDPEVNEFRRKMRKFSEEEKILSLVGLSWMDWLKQTYYPEHEPSIPENLEDKLY
94 DETRRLCDVRPFLPVLKLVTRSCDPGEKLDISKIGVLIGKGLHEFDSLKDPEVNEFRRKMRKFSEEEKILSLVGLSWMDWLKQTYYPEHEPSIPENLEDKLY

201 GKKLIVAVHFENCQDVFSFQVSNMNPPIKVNELAIQKRLTIHGKEDVSPYDVLQVSGRVEYVFGDHPLIQFQYIRNCVMNRALPHFILVECCIKKMY
194 GKKLIVAVHFENCQDVFSFQVSNMNPPIKVNELAIQKRLTIHGKEDVSPYDVLQVSGRVEYVFGDHPLIQFQYIRNCVMNRALPHFILVECCIKKMY

301 EQEMIAIEAAINRNSNLPPLPPKKTRIIISHVWENNPFQIVLVKGNKLNTEETVKVHVRAGLFHGTELLCKTIVSSEVSGKNDHIWNEPLEFDINICD
294 EQEMIAIEAAINRNSNLPPLPPKKTRIIISHVWENNPFQIVLVKGNKLNTEETVKVHVRAGLFHGTELLCKTIVSSEVSGKNDHIWNEPLEFDINICD

401 LPRMARLCFAVAVLDKVKTKKSTKTINPSKYQTIKAGKVHYPAVWNTMVDFDKGQLRTGDIILHSWSSFPDELEMLNPMGTQVTNPYENATALHV
394 LPRMARLCFAVAVLDKVKTKKSTKTINPSKYQTIKAGKVHYPAVWNTMVDFDKGQLRTGDIILHSWSSFPDELEMLNPMGTQVTNPYENATALHV

501 KFPENKQPPYYPPFDKIEKAAEIASSDSANVSSRGGKFLPVLKEILDRDPLSQLCENEMDLIWTLRQDCREIFPQSLPKLLLSIKWNKLEDVAQLQA
494 KFPENKQPPYYPPFDKIEKAAEIASSDSANVSSRGGKFLPVLKEILDRDPLSQLCENEMDLIWTLRQDCREIFPQSLPKLLLSIKWNKLEDVAQLQA

601 LLQIWPKLPREALELLDFNYPQYVREYAVGCLRQMSDEELSQYLLQLVQVLKYEPFLDCALSRFLLERALGNRRIGQFLFWHLRSEVHIPAVSVQFGV
594 LLQIWPKLPREALELLDFNYPQYVREYAVGCLRQMSDEELSQYLLQLVQVLKYEPFLDCALSRFLLERALGNRRIGQFLFWHLRSEVHIPAVSVQFGV

701 ILEAYCRGSGVGHMKVLSKQVEALNKLKTLNLSIKLNAVKNRAKGEAMHTCLKQSAAYREALSDLQSLNPNPCVILSELYVECKCYMDSKMKPLWL VYNNK
694 ILEAYCRGSGVGHMKVLSKQVEALNKLKTLNLSIKLNAVKNRAKGEAMHTCLKQSAAYREALSDLQSLNPNPCVILSELYVECKCYMDSKMKPLWL VYNNK

801 VFGEDSVGVIFKNGDDLQDMQLTQMLRMDLWKEAGLDRLMPLPYGCLATGDRSGLIEVVSTSETIADIQLNSSNVAAAAAFNKDALLNLWKEYNSGDD
794 VFGEDSVGVIFKNGDDLQDMQLTQMLRMDLWKEAGLDRLMPLPYGCLATGDRSGLIEVVSTSETIADIQLNSSNVAAAAAFNKDALLNLWKEYNSGDD

901 LDRAIEEFTLSCAGYCVASYVLGIGDRHSDNIMVKKTGQLFHIDFGHILGNFKSKFGIKRERVFFILTYDFIHVIQGGKTGNTKFGFRQCCEDAYLIL
894 LDRAIEEFTLSCAGYCVASYVLGIGDRHSDNIMVKKTGQLFHIDFGHILGNFKSKFGIKRERVFFILTYDFIHVIQGGKTGNTKFGFRQCCEDAYLIL

1001 RRHGNLFITLFAFMLTAGLPELTSVKDIQYLKDSLALGKSEEEALKQFKQKQFDEALRESWTTKVNMMAHTVRKDYRS
994 RRHGNLFITLFAFMLTAGLPELTSVKDIQYLKDSLALGKSEEEALKQFKQKQFDEALRESWTTKVNMMAHTVRKDYRS

GenBank Accession Number: NP_852664.1

1 MHHHHHHSRVPSRIPMAGPEGFYRALYFRRRERPEDELLPGDVLVVSRAALQALGVAEGGERCPQSVGWMPGLNERTRQRGDFPGTYVEFLGPVALA Life PIK3R2
1 M-----AGPEGFYRALYFRRRERPEDELLPGDVLVVSRAALQALGVAEGGERCPQSVGWMPGLNERTRQRGDFPGTYVEFLGPVALA NP_852664.1

101 RPPGPRRGRPLPARPRDGAPEGLTLPDLPEQFSPPDVAPPLLVKLVEAIERTGLDSESHYRPELPAPRTDWSLSDVDQWDTAALADGKISFLLALPAP
85 RPPGPRRGRPLPARPRDGAPEGLTLPDLPEQFSPPDVAPPLLVKLVEAIERTGLDSESHYRPELPAPRTDWSLSDVDQWDTAALADGKISFLLALPAP

201 LVTPEASAEARRALREAAGPVGALEPPTLPLHRLTLRFLQLHGRVARRAPALGPAVRALGATFGPLLLRAPPPSSPPPGGAPDGESESPDFPALLV
185 LVTPEASAEARRALREAAGPVGALEPPTLPLHRLTLRFLQLHGRVARRAPALGPAVRALGATFGPLLLRAPPPSSPPPGGAPDGESESPDFPALLV

301 EKLLQEHLEEQEVAPPALPPKPPKAKPAPTVLANGGSPPSLQDAEWYWGDISREEVNEKLRDTPDGTFLVRDASSKIQGEYTLTLRKGGNNKLIKVFHRD
285 EKLLQEHLEEQEVAPPALPPKPPKAKPAPTVLANGGSPPSLQDAEWYWGDISREEVNEKLRDTPDGTFLVRDASSKIQGEYTLTLRKGGNNKLIKVFHRD

401 GHYGFSEPLTFCSSVDLINHYRHESLAQYNAKLDTRLLYPVSKYQQDQIVKEDSVEAVGAQLKVYHQYQDKSREYDQLYEEYTRTSQELQMKRTAIEAF
385 GHYGFSEPLTFCSSVDLINHYRHESLAQYNAKLDTRLLYPVSKYQQDQIVKEDSVEAVGAQLKVYHQYQDKSREYDQLYEEYTRTSQELQMKRTAIEAF

501 NETIKIFEEQGTQEKCSKEYLERFRREGNEKEMQRIILLNSERLKSRIAEIHESRTKLEQQLRAQASDNREIDKRMNSLKPDLMLRKIRDQYLVWLTQK
485 NETIKIFEEQGTQEKCSKEYLERFRREGNEKEMQRIILLNSERLKSRIAEIHESRTKLEQQLRAQASDNREIDKRMNSLKPDLMLRKIRDQYLVWLTQK

601 GARQKKINEWLGIKNETEDQYALMEDEDDLPHHEERTWYVGKINRTQAEEMLSGKRDGTFLIRESSQRGCYACSVVDGDTKHCVIYRTATGFGFAEPYN
585 GARQKKINEWLGIKNETEDQYALMEDEDDLPHHEERTWYVGKINRTQAEEMLSGKRDGTFLIRESSQRGCYACSVVDGDTKHCVIYRTATGFGFAEPYN

701 LYGSLKELVLHYQHASLVQHNDALTVTLAHPVRAPGPGPPAAR
685 LYGSLKELVLHYQHASLVQHNDALTVTLAHPVRAPGPGPPAAR

* highlighted residues denote differences from the reference protein sequence(s).



Shannon Orr, Sr. Manager, Quality

Date: 07/Apr/2021

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