41130 Recombinant Human DCC-interacting Protein 13-alpha (hAPPL1)

Source: Expressed in *E.coli*
Tag: N-terminal 6xHis
Size: 100μg
Purity: >95%, determined by SDS-PAGE
Other Names: DIP13alpha

Introduction to the Molecule

APPL1, an adaptor protein containing an NH2-terminal Bin/Amphiphiphysin/Rvs (BAR) domain, a central pleckstrin homology (PH) domain and a COOH-terminal phosphotyrosine binding (PTB) domain, was originally identified as an interacting partner of Akt in a yeast two-hybrid assay using Akt2 as a bait. APPL1 binds to a number of cell surface receptors (TrkA, DCC[5], adiponectin, FSH) and intracellular signaling molecules (small GTPase Rab5, GIPC and inositol 5-phosphatase, suggesting that APPL1 may act as a common relay to coordinate diverse signaling cascades. APPL1 potentiates insulin-mediated Akt activation by counteracting the effect of the Akt inhibitor TRB3.

Amino Acid Sequence

MSYYHHHHHHDYDIPTTENLYFQGAMGSGIQ
PGIDKLPIEETLEDSPQTRSLLGVFEEDATAISNYMN
QLYQAMHRIYDAQNELSAATHLTSKLLKEYEKQRFP
LGGDDEVMSSTLQQFSKVIDELSSCHAVLSTQLAD
AMMFPITQFKERDLKEILTLKEVFQIASNDHDAAIN
RYSRLSKKRENDKVKYEVTEDVYTSRKKQHQTMM
HYFCALNTLQYKKKIALLEPLLGYMQAQISFFKMGS
ENLNEQLEEFLANIGTSVQNVRREMDSDIETMQQTI
EDLEVASDPLYVPDPDPTKFPVNRNLTRKAGYLNAR
NKTGLVSSTWDRQFYFTQGGNLMSQARGDVAGGL
AMDIDNCSVMAVDCEDRRYCFQITSFDGKKSSILQ
AESKKDHEEWICTINNISKQIYLSENPEETAARVNQ
SALEAVTPSPSFQQRHESLRPAAGQSRPPTARTSSS
GSLGSESTNLAALSLDSLVAPDTPIQFDIISPVCEDQ
PGQAKAFGQGGRRTNPFGESGGSTKSETEDSILHQ
LFIVRFLGSMEVKSDDHPDVVYETMRQILAARAIHN
IFRMTESHLLVTCDCLKLIDPQTQVTRLTFPLPCVVL
YATHQENKRLFGFVLRTSSGRSESNLSSVCYIFESN
NEGEKICDSVGLAKQIALHAELDRRASEKQKEIERV
KEKQQKELNKQKQIEKDLEEQSRLIAASSRPNQAS
SEGQFVVLSSSQSEESDLGEGGKKRESEA
Note: 6xhis tag and TEV site are highlighted

Formulation, Reconstitution and Storage

- Lyophilized at 1 mg/mL in NaCl 137mM, KCl 2.7mM, Na_2HPO_4 10mM, KH_2PO_4 1.8mM, pH 8.0.
- Add deionized water to prepare a working stock solution of approximately 1 mg/mL and let the lyophilized pellet dissolve completely.
- Store lyophilized protein at –20°C. Aliquot reconstituted protein and store at –80°C. Avoid repeated freezing /thawing cycles.

SDS-PAGE Gel