Recombinant Human Mitogen-activated protein kinase 3(MAPK3),partial

Catalog No: #AP70527

Package Size: #AP70527-1 20ug #AP70527-2 100ug #AP70527-3 1mg

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Description

Product Name	Recombinant Human Mitogen-activated protein kinase 3(MAPK3),partial
Host Species	E.coli
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:11-379aaSequence Info:Partial
Other Names	ERT2Extracellular domain signal-regulated kinase 1 ;ERK-1Insulin-stimulated MAP2 kinase;MAP kinase isoform p44 ;p44-MAPKMicrotubule-associated protein 2 kinasep44-ERK1
Accession No.	P27361
Calculated MW	46.3 kDa
Tag Info	N-terminal 6xHis-tagged
Target Sequence	GGEPRRTEGVGPGVPGEVEMVKGQPFDVGPRYTQLQYIGEGAYGMVSSAYDHVRKTRVAIKKISPFEHQTY CQRTLREIQILLRFRHENVIGIRDILRASTLEAMRDVYIVQDLMETDLYKLLKSQQLSNDHICYFLYQILRGLKYIH SANVLHRDLKPSNLLINTTCDLKICDFGLARIADPEHDHTGFLTEYVATRWYRAPEIMLNSKGYTKSIDIWSVGCI LAEMLSNRPIFPGKHYLDQLNHILGILGSPSQEDLNCIINMKARNYLQSLPSKTKVAWAKLFPKSDSKALDLLDR MLTFNPNKRITVEEALAHPYLEQYYDPTDEPVAEEPFTFAMELDDLPKERLKELIFQETARFQPGVLEAP
Formulation	Tris-based buffer50% glycerol
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Background

Serine,threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1,ERK2 and MAPK3,ERK1 are the 2 MAPKs which play an important role in the MAPK,ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG,SCF. Depending on the cellular context, the MAPK,ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangents. The MAPK,ERK cascade plays also a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and se to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK,ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC); as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elents (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1,RSK1, RPS6KA3,RSK2, RPS6KA2,RSK3, RPS6KA6,RSK4, SYK, MKNK1,MNK1, MKNK2,MNK2, RPS6KA5,MSK1, RPS6KA4,MSK2, MAPKAPK3 or MAPKAPK5) and phosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK,ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade.

References

Properties of human ERK1b.Aebersold D.M., Yung Y., Seger R.Identification of dominant negative Erk1,2 variants in cancer cells.Cheng H., Ren S., Qiu R., Wang M., Feng Y.H.SeattleSNPs variation discovery resourceThe sequence and analysis of duplication-rich human chromosome 16.Martin J., Han C., Gordon L.A., Terry A., Prabhakar S., She X., Xie G., Hellsten U., Chan Y.M., Altherr M., Couronne O., Aerts A., Bajorek E., Black S., Blumer H., Branscomb E., Brown N.C., Bruno W.J. , Buckingham J.M., Callen D.F., Campbell C.S., Campbell M.L., Campbell E.W., Caoile C., Challacombe J.F., Chasteen L.A., Chertkov O., Chi H.C., Christensen M., Clark L.M., Cohn J.D., Denys M., Detter J.C., Dickson M., Dimitrijevic-Bussod M., Escobar J., Fawcett J.J., Flowers D., Fotopulos D., Glavina T., Gomez M., Gonzales E., Goodstein D., Goodwin L.A., Grady D.L., Grigoriev I., Groza M., Hammon N., Hawkins T., Haydu L., Hildebrand C.E., Huang W., Israni S., Jett J., Jewett P.B., Kadner K., Kimball H., Kobayashi A., Krawczyk M.-C., Leyba T., Longmire J.L., Lopez F., Lou Y., Lowry S., Ludeman T., Manohar C.F., Mark G.A., McMurray K.L., Meincke L.J., Morgan J., Moyzis R.K., Mundt M.O., Munk A.C., Nandkeshwar R.D., Pitluck S., Pollard M., Predki P., Parson-Quintana B., Ramirez L., Rash S., Retterer J., Ricke D.O., Robinson D.L., Rodriguez A., Salamov A., Saunders E.H., Scott D., Shough T., Stallings R.L., Stalvey M., Sutherland R.D., Tapia R., Tesmer J.G., Thayer N., Thompson L.S., Tice H., Torney D.C., Tran-Gyamfi M., Tsai M., Ulanovsky L.E., Ustaszewska A., Vo N., White P.S., Williams A.L., Wills P.L., Wu J.-R., Wu K., Yang J., DeJong P., Bruce D., Doggett N.A., Deaven L., Schmutz J., Grimwood J., Richardson P., Rokhsar D.S., Eichler E.E., Gilna P., Lucas S.M., Myers R.M., Rubin E.M., Pennacchio L.A.Nature 432:988-994(2004)Research Topic:Cell Cycle

Note: This product is for in vitro research use only and is not intended for use in humans or animals.