

Recombinant DAPK3 / ZIPK protein

Catalog No: 81432, 81532

Expressed In: Baculovirus

Quantity: 20, 1000 µg

Concentration: 0.5 µg/µl

Source: Human

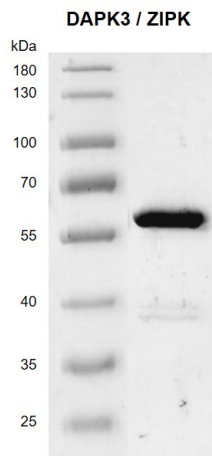
Buffer Contents: Recombinant DAPK3 / ZIPK protein is supplied in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 10% glycerol, 0.04% Triton X-100, 0.5 mM TCEP.

Background: DAPK3 (Death Associated Protein Kinase 3), a serine/threonine kinase which is involved in the regulation of apoptosis, autophagy, transcription, translation and actin cytoskeleton reorganization. This protein is involved in the regulation of smooth muscle contraction and regulates both type I (caspase-dependent) apoptotic and type II (caspaseindependent) autophagic cell deaths signal, depending on the cellular setting. DAPK3 is involved in regulation of starvation-induced autophagy and regulates myosin phosphorylation in both smooth muscle and non-muscle cells. In smooth muscle, DAPK3 regulates myosin either directly by phosphorylating MYL12B and MYL9 or through inhibition of smooth muscle myosin phosphatase (SMPP1M) via phosphorylation of PPP1R12A; the inhibition of SMPP1M functions to enhance muscle responsiveness to Ca(2+) and promote a contractile state. DAPK3 phosphorylates MYL12B in non-muscle cells leading to reorganization of actin cytoskeleton. Isoform 2 can phosphorylate myosin, PPP1R12A and MYL12B.

Protein Details: Recombinant DAPK3 / ZIPK protein was expressed in baculovirus expression system as the full length protein (accession number NP_001339.1) with a N-terminal FLAG tag. The molecular weight of the protein is 53.8 kDa.

Application Notes: This product was manufactured as described in Protein Details. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.



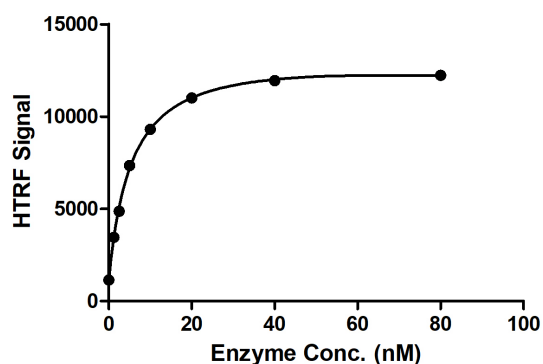
Recombinant DAPK3 / ZIPK protein

10% SDS-PAGE Coomassie staining

MW: 53.8 kDa

Purity: $\geq 90\%$

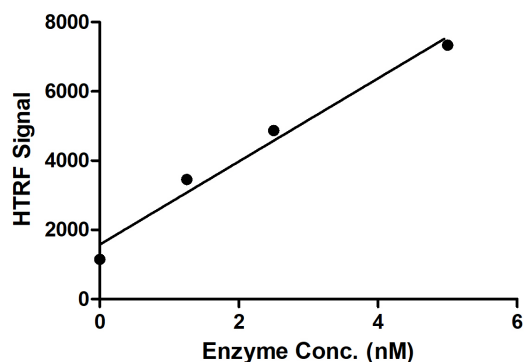
DAPK3 Titration



HTRF assay for DAPK3 / ZIPK; activity

1 μM STK S1 substrate was incubated with different concentrations of DAPK3 / ZIPK; protein in a 10 μl reaction system containing 1 \times Enzymatic Buffer, 10 mM MgCl_2 , 1 mM DTT and 100 μM ATP for 1 hour. The detection reagents were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature.

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