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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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ALK2 (PF197_198L), GST-Tag Recombinant

Catalog: 101935
Lot: 230711

Product Information

Description:	Recombinant human ALK2 (PF197_198L) (activin receptor-like kinase-2), encompassing amino acids 147-end with a PF197_198L mutation. This construct contains an N-terminal GST-tag. The recombinant protein was affinity purified and is active.
Background:	ALK2 (activin receptor-like kinase 2), also known as ACVR1 or activin A receptor type 1, is a bone morphogenic protein receptor involved in BMP (bone morphogenic protein) signal transduction. ALK2 forms complexes with BMPs, which then recruit proteins from the SMAD family (Mothers against decapentaplegic homolog). It participates in the development and regulation of the skeletal system, heart, brain and reproductive system. ALK2 dysfunction can lead to fibrodysplasia ossificans progressive (FOP), where the BMP/SMAD pathway is hyper-activated and mesenchymal stem cells differentiate along the osteogenic pathway and transform into bone all over the body. Mutations in ALK2 were also found in cancer, such as diffuse intrinsic pontine glioma (DIPG) and child brain cancer. ALK2 inhibitors have been studied in pre-clinical models of FOP and DIPG and showed great promise. Further studies into ALK2 will deepen our understanding of its functions, find new inhibitors and new therapeutic avenues for patients with ALK-linked cancer.
Species:	Human
Construct:	ALK2 (PF197_198L) (GST-147-end)
Mutation:	PF197_198L
Concentration:	0.10 mg/ml
Expression System:	Sf9
Purity:	≥90% (Purity calculation does not include co-purifying Glutathione-binding proteins.)
Format:	Aqueous buffer solution.
Formulated In:	50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 10 mM Glutathione, 0.1 mM EDTA, 0.25 mM DTT, 0.1 mM PMSF, 25% glycerol
MW:	69 kDa
Genbank Accession:	NM_001105
Stability:	At least 6 months at -80°C.
Storage:	-80°C
Instructions for Use:	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Specific Activity:	3.6 pmol/min/µg
Assay Conditions:	ALK2 (PF197_198L) activity was measured by using the casein protein substrate diluted in distilled water to a working concentration of 1 mg/ml, in a [33P]-ATP based assay. Reaction was initiated by mixing increasing amounts of ALK2 (PF197_198L) with 1250 pmoles of [33P]-ATP in 5 mM MOPS, pH 7.2, 2.5 mM β-glycerol-phosphate, 5 mM $MgCl_2$, 2.5 mM $MnCl_2$, 1 mM EGTA, 0.4 mM EDTA, 50 ng/µl BSA prepared with 50 µM DTT, 50 µM ATP and substrate at a final concentration of 200 µg/ml. The reaction was initiated by addition of [33P]-ATP Assay Cocktail, followed by a 15-minute incubation at 30°C. The reaction was terminated by spotting the reaction mixture on phosphocellulose P81 paper, air-dry and three 10-minute washes with 1% phosphoric acid solution. Radioactivity was measured in a scintillation counter. The corrected activity (RLU) was calculated by removing the blank value for each sample. The Kinase Specific Activity was calculated as follows: RLU / [(specific activity of [33P]-ATP in cpm/pmol)*(Reaction time in min)*(Enzyme amount in µg or mg)] * [(Reaction Volume) / (Spot Volume)]. The blank was determined from a “no substrate” sample by replacing the substrate solution with an equal volume of distilled water.
Applications:	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

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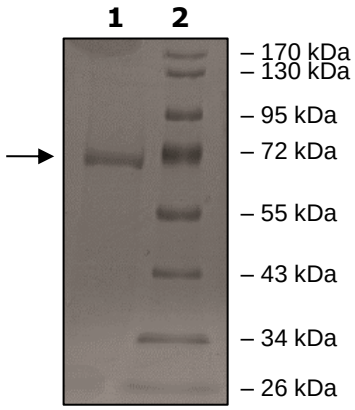
Quality Control Data

4-20% SDS-PAGE Coomassie Staining



Specific Activity