ALK3 (BMPR1A) (R486Q), GST-Tag Recombinant

Catalog: 101943
Lot: 230711

Product Information

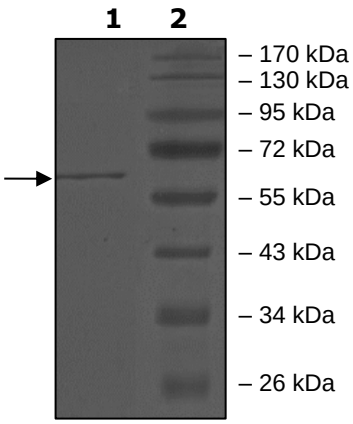
Description:	Recombinant human ALK3 (R486Q) (bone morphogenetic protein receptor IA), encompassing amino acids 187-end with an R486Q mutation. This construct contains an N-terminal GST-tag. The recombinant protein was affinity purified and is active.
Background:	ALK3 (bone morphogenetic protein receptor type IA), also known as BMPR1A or CD292 (cluster of differentiation 292), is a bone morphogenic protein receptor involved in BMP (bone morphogenic protein) signal transduction. ALK3 maintains cell stemness by inhibiting Wnt signaling. It is involved in juvenile polyposis syndrome, Cowden's disease and kidney injury. The development of inhibitors and agonists may provide new therapeutic opportunities for the regeneration and repair of kidney.
Species:	Human
Construct:	ALK3 (R486Q) (GST-187-end)
Mutation:	R486Q
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:	66 kDa
Genbank Accession:	NM_004329
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.
Assay Conditions:	ALK3 (R486Q) activity was measured by using the TGFBR1 peptide substrate (KKKVLTQMGSPSIRCS(pS)VS) 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 ALK3 (R486Q) with 1250 pmoles of [33P]-ATP in 5 mM MOPS, pH 7.2, 2.5 mM β-glycerol-phosphate, 5 mM MgCl2, 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.

ALK3 (BMPR1A) (R486Q), GST-Tag Recombinant

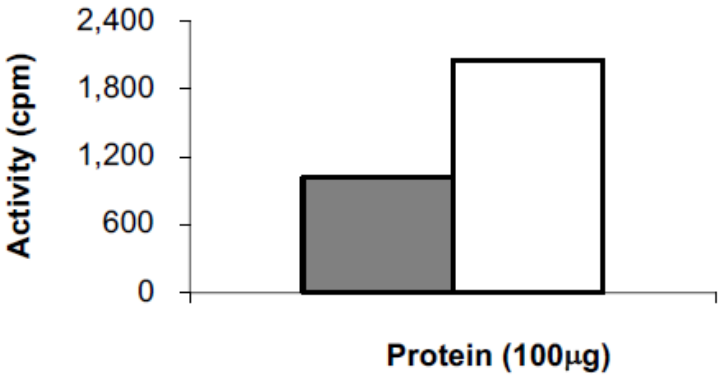
Catalog: 101943
Lot: 230711

Quality Control Data

4-20% SDS-PAGE Coomassie Staining



Specific Activity



ALK3 (R486Q) activity assay with or without TGFBR1 peptide substrate. This recombinant ALK3 mutant did not show significant kinase activity *in vitro* using the activity assay protocol in the datasheet.