Recombinant RAF1 protein (His tag)

Catalog Number	544295
Synonyms	Proto-oncogene c-RAF; cRaf; Raf-1
Species	Human
Expression System	E. coli
Accession	P04049
Molecular Weight	Predictes a molecular mass of 33.18 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 33 kDa band.

Product Information

Sequence Region	338-612
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 338-612 aa (P04049) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Introducing the recombinant RAF1 Kinase Domain (residues 338-612), a highly functional fragment of the RAF proto-oncogene serine/threonine-protein kinase from Homo sapiens. This product encompasses the complete protein kinase domain, offering researchers a precise tool to investigate kinase activity, MAPK/ERK signaling, and oncogenic mechanisms in a purified, active form. RAF1 (RAF proto-oncogene serine/threonine-protein kinase) is a critical regulatory serine/threonine-protein kinase that serves as a key link between Ras GTPases and the MAPK/ERK cascade, influencing fundamental cellular decisions including proliferation, differentiation, apoptosis, survival, and oncogenic transformation. Upon activation, RAF1 initiates a phosphorylation cascade through MAPK kinases (MAP2K1/MEK1 and MAP2K2/MEK2) leading to extracellular signal-regulated kinase (ERK) activation. Beyond MAPK signaling, RAF1 phosphorylates multiple substrates including BAD, adenylyl cyclases (ADCY2, ADCY5, ADCY6), and PPP1R12A, regulating apoptosis, cAMP production, and phosphatase activity respectively. It localizes to multiple cellular compartments including cytoplasm, cell membrane, mitochondria, and nucleus, with membrane recruitment mediated by active Ras and mitochondrial localization requiring phosphorylation at Ser-338/Ser-339. RAF1 also plays roles in NF-κB activation, Rho signaling, cell migration, wound healing, and epithelial transformation through regulation of tight junction proteins.