Sarcoma Viral Oncogene (KRAS 2A) Human Kirsten Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	Sarcoma Viral Oncogene (KRAS 2A), Recombinant Protein
Full Product Name	Recombinant Human Kirsten Rat Sarcoma Viral Oncogene, Isoform 2A
Product Gene Name	KRAS 2A recombinant protein
Product Synonym Names	KRAS 2A Human; Kirsten Rat Sarcoma Viral Oncogene, Isoform 2A Human Recombinant; GTPase KRas; K-Ras 2; Ki-Ras; c-K-ras; c-Ki-ras; KRAS; KRAS2; RASK2; C-K-RAS; CFC2; K-RAS2A; K-RAS2B; K-RAS4A; K-RAS4B; KI-RAS; KRAS1; NS; NS3; Kirsten rat sarcoma viral oncogene homolog
Sequence	MGSSHHH HHH SSGLVPRGSH MGSHMT EYKL VVVGAGGVGK SALTIQLIQN HFVDEYDPTI EDSYRKQVVI DGETCLLDIL DTAGQEEYSA MRDQYMRTGE GFLCVFAINN TKSFEDIHHY REQIKRVKDS EDVPMVLVGN KCDLPSRTVD TKQAQDLARS YGIPFIETSA KTRQRVEDAF YTLVREIRQY RLKKISKEEK TPGCVKIKKC .
Host	E Coli
Form/Format	KRAS 2A protein solution (0.5mg/ml) containing 20mM Tris-HCl buffer (pH8.0), 20% glycerol, 0.1M NaCl and 1mM DTT. Sterile Filtered colorless solution.
Purity/Purification	Greater than 90.0% as determined by SDS-PAGE.
Preparation and Storage	Store at 4 degree C if entire vial will be used within 2-4 weeks. Store, frozen at -20 degree C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Avoid multiple freeze-thaw cycles.
Molecular Weight	21,425 Da
OMIM	190070
3D Structure	ModBase 3D Structure for P01116
Product Categories/Family for KRAS 2A recombinant protein	Recombinant & Natural Proteins; Recombinant Proteins
Related Product Information for KRAS 2A recombinant protein	**Description:** KRAS 2A Human Recombinant produced in E Coli is a single, non-glycosylated polypeptide chain containing 210 amino acids (1-186 a.a) and having a molecular mass of 23.8kDa.KRAS 2A is fused to a 24 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques. **Introduction:** Kirsten Rat Sarcoma Viral Oncogene, Isoform 2A (KRAS-2A) belongs to the small GTPase superfamily. The KRAS-2A protein is involved in a variety of malignancies, including lung adenocarcinoma, mucinous adenoma, ductal carcinoma of the pancreas and colorectal carcinoma. Ras family members impact cell growth and differentiation events in a subcellular membrane compartmentalization-based signaling system under normal conditions. Oncogenic Ras can deregulate processes which control both cell proliferation and apoptosis.
Other Notes	Small volumes of KRAS 2A recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for KRAS 2A purchase	MBS145999 is a recombinant protein targeting KRAS 2A. Also known as Recombinant Human Kirsten Rat Sarcoma Viral Oncogene, Isoform 2A. Host: E Coli.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for KRAS 2A. It may not necessarily be applicable to this product.

NCBI GI #	15718761

NCBI GeneID	3845
NCBI Accession #	NP_004976.2
UniProt Primary Accession #	P01116
UniProt Secondary Accession #	P01118; Q96D10; A8K8Z5; B0LPF9
UniProt Related Accession #	P01116
GenBank Nucleotide #	NM_004985.4
NCBI Official Full Name	GTPase KRas isoform b
NCBI Official Synonym Full Names	Kirsten rat sarcoma viral oncogene homolog
NCBI Official Symbol	KRAS
NCBI Official Synonym Symbols	NS; NS3; CFC2; KRAS1; KRAS2; RASK2; KI-RAS; C-K-RAS; K-RAS2A; K-RAS2B; K-RAS4A; K-RAS4B
UniProt Protein Name	GTPase KRas
UniProt Synonym Protein Names	K-Ras 2; Ki-Ras; c-K-ras; c-Ki-rasGTPase KRas, N-terminally processed
Protein Family	Mast/stem cell growth factor receptor
UniProt Gene Name	KRAS
UniProt Synonym Gene Names	KRAS2; RASK2
UniProt Entry Name	RASK_HUMAN
NCBI Protein Information	GTPase KRas; K-Ras 2; K-ras p21 protein; PR310 c-K-ras oncogene; c-Ki-ras; c-Kirsten-ras protein; cellular c-Ki-ras2 proto-oncogene; oncogene KRAS2; transforming protein p21; v-Ki-ras2 Kirsten rat sarcoma 2 viral oncogene homolog
NCBI Summary for KRAS 2A	This gene, a Kirsten ras oncogene homolog from the mammalian ras gene family, encodes a protein that is a member of the small GTPase superfamily. A single amino acid substitution is responsible for an activating mutation. The transforming protein that results is implicated in various malignancies, including lung adenocarcinoma, mucinous adenoma, ductal carcinoma of the pancreas and colorectal carcinoma. Alternative splicing leads to variants encoding two isoforms that differ in the C-terminal region. [provided by RefSeq, Jul 2008]

UniProt Comments for KRAS 2A	KRas: Ras proteins bind GDP/GTP and possess intrinsic GTPase activity. Interacts with PHLPP. Interacts (active GTP-bound form preferentially) with RGS14. Alternate between an inactive form bound to GDP and an active form bound to GTP. Activated by a guanine nucleotide-exchange factor (GEF) and inactivated by a GTPase- activating protein (GAP). Belongs to the small GTPase superfamily. Ras family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: G protein, monomeric, Ras; Oncoprotein; G protein; Motility/polarity/chemotaxis; G protein, monomeric Chromosomal Location of Human Ortholog: 12p12.1 Cellular Component: extrinsic to internal side of plasma membrane; focal adhesion; mitochondrion; membrane; cytoplasm; plasma membrane; cytosol; lipid raft Molecular Function: protein binding; GDP binding; GTP binding; GMP binding; protein complex binding; LRR domain binding Biological Process: regulation of long-term neuronal synaptic plasticity; axon guidance; nerve growth factor receptor signaling pathway; activation of MAPKK activity; response to glucocorticoid stimulus; activation of NF-kappaB transcription factor; positive regulation of MAP kinase activity; small GTPase mediated signal transduction; positive regulation of cell proliferation; visual learning; negative regulation of neuron apoptosis; epidermal growth factor receptor signaling pathway; fibroblast growth factor receptor signaling pathway; positive regulation of nitric-oxide synthase activity; cytokine and chemokine mediated signaling pathway; MAPKKK cascade; response to mineralocorticoid stimulus; social behavior; regulation of synaptic transmission, GABAergic; positive regulation of Rac protein signal transduction; negative regulation of cell differentiation; Ras protein signal transduction; insulin receptor signaling pathway; innate immune response; striated muscle cell differentiation; positive regulation of protein amino acid phosphorylation; blood coagulation; actin cytoskeleton organization and biogenesis; vascular endothelial growth factor receptor signaling pathway; leukocyte migration Disease: Bladder Cancer; Gastric Cancer, Hereditary Diffuse; Pancreatic Cancer; Noonan Syndrome 3; Leukemia, Acute Myeloid; Breast Cancer; Lung Cancer; Schimmelpenning-feuerstein-mims Syndrome; Cardiofaciocutaneous Syndrome 2
Research Articles on KRAS 2A	**1.** EGFR or KRAS mutations were detected with xTAG liquidchip technology
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