

PRODUCT INFORMATION



K-Ras Isoform B (G12V mutant; human, recombinant)

Item No. 40373

Overview and Properties

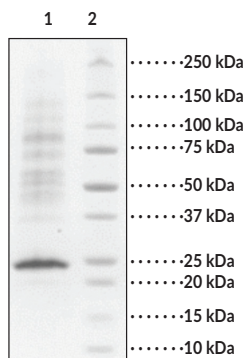
Synonyms: c-K-ras(G12V), c-Ki-ras(G12V), K-Ras(G12V), K-Ras4A(G12V), Ki-Ras(G12V), Kirsten Rat Sarcoma Virus(G12V)
Source: Recombinant human N-terminal His-tagged K-Ras(G12V) isoform B expressed in insect cells
Amino Acids: 2-185
Uniprot No.: P01116
Molecular Weight: 22 kDa
Storage: -80°C (as supplied)
Stability: ≥6 months
Purity: ≥53% estimated by SDS-PAGE
Supplied in: 40 mM Tris-HCl, pH 8.0, with 110 mM sodium chloride, 2.2 mM potassium chloride, 0.04% Tween20, 20% glycerol, 3 mM DTT, and 120 mM imidazole

Protein

Concentration: *batch specific* mg/ml

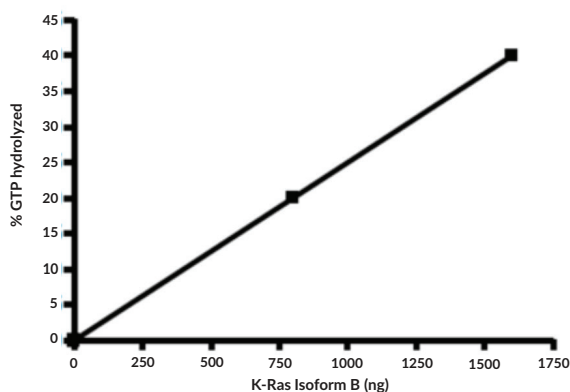
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: K-Ras Isoform B
Lane 2: MW Markers

SDS-PAGE Analysis of K-Ras Isoform B



Intrinsic GTPase activity of K-Ras Isoform B.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

K-Ras is a small GTPase and member of the RAS family of GTPases with roles in apoptosis, as well as cell proliferation, survival, and migration.^{1,2} K-Ras is composed of a guanine nucleotide-binding domain containing an active site, an effector binding domain, and an isoform-specific C-terminal hypervariable region (HVR) that differs between K-Ras isoforms A and B due to alternative splicing.^{1,3,4} The active site cycles between GDP-bound inactive and GTP-bound active states and is regulated by its associations with GTPase-activating proteins (GAPs) or guanine nucleotide exchange factors (GEFs).^{3,5} K-Ras isoform B is ubiquitously expressed and is tethered to the intracellular side of cell membranes *via* farnesyl lipidation and to negatively charged regions of the membrane *via* two positively charged polybasic regions in the HVR.^{1,4,6} K-Ras^{G12V}, which contains a glycine-to-valine substitution at position 12, is constitutively active and associated with pancreatic, colon, and lung cancers.⁷ Tumor levels of K-Ras^{G12V} are negatively correlated with overall survival in patients with colorectal cancer.⁴ Cayman's K-Ras Isoform B (G12V mutant; human, recombinant) protein consists of 184 amino acids, has a calculated molecular weight of 22 kDa, and can be used for enzyme activity assay, inhibitor screening, and inhibitor selectivity profiling applications.

References

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