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# Produktinformation

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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

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- Gefahrgutzuschlag
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# PRODUCT INFORMATION

## K-Ras Isoform B (G12C, C51S, C80L, C118S mutant; human, recombinant)

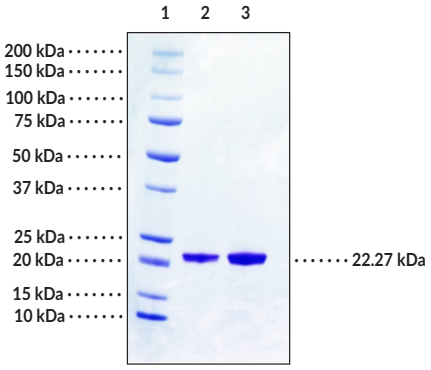
*Item No. 40366*

### Overview and Properties

| | |
|---|---|
| **Synonyms:** | c-K-ras(G12C, C51S, C80L, C118S), K-Ras4A(G12C, C51S, C80L, C118S), K-Ras Cys-light, Ki-Ras(G12C, C51S, C80L, C118S), c-Ki-ras(G12C, C51S, C80L, C118S), Kirsten Rat Sarcoma Virus(G12C, C51S, C80L, C118S) |
| **Source:** | Active recombinant human N-terminal His-tagged K-Ras isoform B (G12C, C51S, C80L, C118S) expressed in *E. coli* |
| **Amino Acids:** | 1-169 |
| **Uniprot No.:** | P01116 |
| **Molecular Weight:** | 22.27 kDa |
| **Storage:** | -80°C (as supplied) |
| **Stability:** | ≥1 year |
| **Purity:** | ***batch specific*** (≥90% estimated by SDS-PAGE) |
| **Supplied in:** | 20 mM HEPES, pH 8.0, with 150 mM sodium chloride, and 1 mM magnesium chloride |
| **Protein Concentration:** | ***batch specific*** mg/ml |

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

### Image




**Lane 1:** MW Markers
**Lane 2:** K-Ras Isoform B (G12C, C51S, C80L, C118S mutant) (2 µg)
**Lane 3:** K-Ras Isoform B (G12C, C51S, C80L, C118S mutant) (4 µg)

**SDS-PAGE Analysis of K-Ras Isoform B (G12C, C51S, C80L, C118S mutant).**
This protein has an apparent molecular weight of 22.27 kDa.

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# PRODUCT INFORMATION

## 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, which varies by four amino acids between isoforms A and B.[1,3] 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).[3,4] K-Ras is ubiquitously expressed and is tethered to the intracellular side of cell membranes *via* farnesyl and palmitoyl lipidation.[1,5] The glycine-to-cysteine substitution at position 12 of mutant K-Ras (K-Ras$^{G12C}$) is constitutively activating and found in pancreatic, colon, and lung cancers.[2,6] K-Ras$^{G12C}$ substitutions of serine, leucine, and serine for the native cysteine residues in positions 51, 80, and 118 (C51S, C80L, C118S), respectively, of the guanine nucleotide-binding domain have minimal effects on protein structure, therefore, this tetramutated protein has been used to improve labeling of Cys$^{12}$ for protein crystallography and to reduce off-target inhibitor ligation and prevent cysteine-based reactions in kinetic assays.[7-9] Cayman's K-Ras Isoform B (G12C, C51S, C80L, C118S mutant; human, recombinant) protein can be used for ELISA, enzyme activity assay, protein crystallography, and Western blot applications.

## References


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