



# SZABO SCANDIC

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## Produktinformation



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Zuschläge

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- Gefahrgutzuschlag
- Expressversand

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# PRODUCT INFORMATION



## K-Ras Isoform A (G12D mutant; human, recombinant)

Item No. 40372

### Overview and Properties

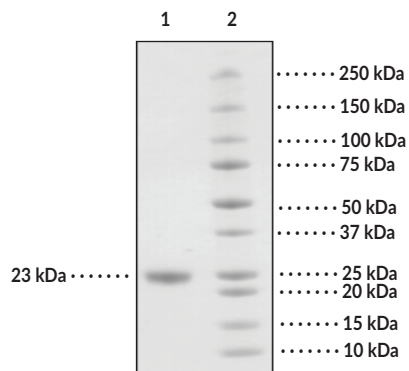
**Synonyms:** c-K-ras(G12D), c-Ki-ras(G12D), K-Ras4A(G12D), Ki-Ras(G12D), Kirsten Rat Sarcoma Virus(G12D), KRAS(G12D)  
**Source:** Recombinant human N-terminal His-tagged K-Ras(G12D) isoform A expressed in *E. coli*  
**Amino Acids:** 2-186  
**Uniprot No.:** P01116  
**Molecular Weight:** 23 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥6 months  
**Purity:** *batch specific* (≥90% estimated by SDS-PAGE)  
**Supplied in:** 20 mM HEPES, pH 7.4, 150 mM sodium chloride, 10% glycerol, and 1 mM dithiothreitol

### 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: K-Ras(G12D) Isoform A  
Lane 2: MW Markers

SDS-PAGE Analysis of K-Ras(G12D) Isoform A.

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.

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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.<sup>1,2</sup> 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.<sup>1,3,4</sup> 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).<sup>3,5</sup> K-Ras is ubiquitously expressed and is tethered to the intracellular side of cell membranes *via* farnesyl and palmitoyl lipidation and to negatively charged or neutral regions of the membrane *via* a single polybasic region in the HVR.<sup>1,6,4</sup> K-Ras(G12D), which contains a glycine-to-aspartic acid substitution at position 12, is constitutively active and associated with pancreatic, colon, and lung cancers.<sup>7</sup> Inhibition of K-Ras(G12D) with the inhibitory peptide KS-58 reduces tumor volume in a PANC-1 pancreatic cancer mouse xenograft model.<sup>8</sup> Tumor levels of K-Ras(G12D) are increased in patients with lung adenocarcinoma who had never smoked.<sup>9</sup> Cayman's K-Ras Isoform A (G12D mutant; human, recombinant) protein consists of 185 amino acids and has a calculated molecular weight of 23 kDa.

## References

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