



# SZABO SCANDIC

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## Produktinformation



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### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# PRODUCT INFORMATION



## K-Ras(G12C) Isoform A (human, recombinant)

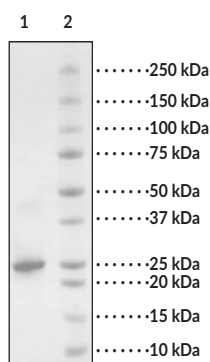
Item No. 40371

### Overview and Properties

<b>Synonyms:</b>	c-K-ras(G12C), K-Ras4A(G12C), c-Ki-ras(G12C), Ki-Ras(G12C), Kirsten Rat Sarcoma Virus(G12C), KRAS(G12C)
<b>Source:</b>	Recombinant human N-terminal His-tagged K-Ras(G12C) isoform A expressed in <i>E. coli</i>
<b>Amino Acids:</b>	2-186
<b>Uniprot No.:</b>	P01116
<b>Molecular Weight:</b>	23 kDa
<b>Storage:</b>	-80°C (as supplied)
<b>Stability:</b>	≥6 months
<b>Purity:</b>	≥88% estimated by SDS-PAGE
<b>Supplied in:</b>	20 mM HEPES, pH 7.4, 150 mM NaCl, 1 mM DTT
<b>Protein Concentration:</b>	<i>batch specific</i> mg/ml

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

### Image



Lane 1: K-Ras(G12C) Isoform A (Item No. 40371)  
Lane 2: MW Markers

SDS-PAGE Analysis of K-Ras(G12C) 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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CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

# PRODUCT INFORMATION



## Description

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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, which varies by four amino acids between isoforms A and B.<sup>1,3</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>3,4</sup> K-Ras is ubiquitously expressed and is tethered to the intracellular side of cell membranes *via* farnesyl and palmitoyl lipidation.<sup>1,5</sup> The glycine-to-cysteine substitution at position 12 mutant K-Ras (K-Ras(G12C)) is constitutively active and found in pancreatic, colon, and lung cancers.<sup>2,6</sup> Inhibition of K-Ras(G12C) with a cysteine-targeted inhibitor ARS1620 (Item No. 27915) reduces tumor volume in K-Ras(G12C)-expressing, but not K-Ras(G12V)-expressing, MiaPaCa-2 pancreatic cancer mouse xenograft models.<sup>7</sup> Tumor levels of K-Ras(G12C) are increased in patients with lung adenocarcinoma who reported to be former or current smokers.<sup>8</sup> Cayman's K-Ras(G12C) Isoform A (human, recombinant) consists of 185 amino acids and has a calculated molecular weight of 23 kDa. By SDS-PAGE, the apparent molecular mass of the protein is 25-26 kDa due to glycosylation.

## References

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1. Nussinov, R., Tsai, C.-J., Chakrabarti, M., *et al.* A new view of Ras isoforms in cancers. *Cancer Res.* **76(1)**, 18-23 (2016).
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