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Product name	Human KRAS 2B G12C mutant SIL-protein
Catalog number	RA117051
Uniprot ID	P01116

Product description

Human KRAS isoform 2B plays an important role in the regulation of cell proliferation and in promoting oncogenic events. In particular, KRAS G12C mutation predominates in NSCLC (Non small cells lung cancer), as well as in pancreatic and colorectal cancer.
Labelled KRAS is a recombinant protein, stable isotope labelled (SIL), designed for use as an internal standard for quantitative analysis of RAS by mass spectrometry (MS) (1,2).

Synonyms: GTPase Kras, K-Ras 2, c-K-ras, Ki-Ras

Protein sequence

MSGSHHHHHHSSGIEGRMTEYKLVVVGACGVGKSALTIQLIQNHFVDEYDPTIEDSYRKQVVIDGETCLLDILDTAGQEEYSAMRDQYMRTG
EGFLCVFAINNTKSFEDIHHYREQIKRVKDSEDVPMVLVGNKCDLPSRTVDTKQAQDLARSYGIPFIETSAKTRQGVDDAFYTLVREIRKHKEK

Product features and protocols

Key features

1	Purity	>90% as determined by SDS-PAGE
2	Labelling	Arg-$^{13}C_6$,$^{15}N_4$ | Lys-$^{13}C_6$,$^{15}N_2$
3	Isotopic incorporation	>99% as determined by LC-MS/MS analysis of digested SIL-protein

Other features

Predicted MW	21.16 kDa
Expression System	*E. coli*
Purification Tag	PolyHis tag at the N-terminus end
Protein content	Determined by BCA assay with BSA as standard
Formulation	Lyophilized from 20 mM HEPES, pH=7.5, 150 mM NaCl and 1 mM DTT buffer.

Product preparation

For product preparation we recommend the following steps:

1. Briefly centrifuge the tube before opening
2. Reconstitute by adding the appropriate volume of ultrapure water for a final concentration of 200 µg/ml (e.g. 50 µl for 10 µg or 250 µl for 50 µg conditioning)
3. Vortex gently to insure complete dissolution
4. Wait 15 minutes at room temperature before proceeding further
5. Vortex gently again and centrifuge briefly

Product storage

The product is lyophilized and shipped at room temperature. **Store at -80 °C upon receipt.**
After reconstitution, the protein can be preserved at 4°C for a few weeks.

Avoid multiple freeze-thaw cycles

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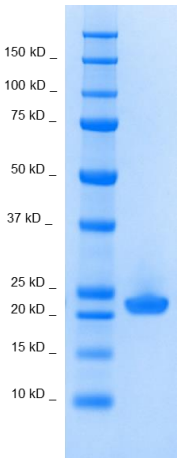
How to use our product

SIL proteins allow to overcome the process variability since they are added at the very beginning of a sample preparation. This has potential positive impact on your analyte quantification, especially if the analyte interacts with other species commonly present within the matrix (1).

Supporting information



SDS-PAGE gel analysis of KRAS G12C protein in Reduced/Heated conditions (RH) and stained with Coomassie blue.

References

1. **G.Picard, D. Lebert, et al.** PSAQ standards for accurate MS-based quantification of proteins: from the concept to biomedical applications, J. Mass Spectrom. 2012, 47, 1353-1363
2. **M. R. Janes et al.** Targeting KRAS Mutant Cancers with a Covalent G12C-Specific Inhibitor 2018, Cell 172, 578–589

The product is intended for research use only. Not for diagnostic or therapeutic use.

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