Human KRAS (2-185, G12D) Protein, His Tag

Catalog # KRS-H51H4AI

Application

Human KRAS (2-185, G12D) Protein, His Tag AIDD-Ready protein is designed for direct use in SPR assays. It is supplied in a sugar-free, glycerol-free formulation to eliminate refractive index interference in SPR. No desalting or buffer exchange is required before use, simplifying the SPR workflow and supporting high-throughput experimental validation to accelerate the transition from AI prediction to wet-lab validation.

Features and Advantages

- **Directly compatible with SPR:** No desalting or buffer exchange required; supplied as a liquid to reduce sample preparation and improve experimental efficiency.
- **High batch-to-batch consistency:** Each lot is released using SPR QC to ensure experimental reproducibility.
- **Validated with representative drugs:** SPR binding activity is validated using representative drug antibodies to ensure suitability for drug screening and evaluation.

Synonyms

GTPase Kras, K-Ras 2, Ki-Ras, c-K-ras, c-Ki-ras, KRAS2, RASK2, C-K-RAS, CFC2, K-RAS2A, K-RAS2B, K-RAS4A, K-RAS4B, KI-RAS, KRAS1, KRAS2, NS, NS3, RASK2, KRAS

Source

Human KRAS (2-185, G12D) Protein, His Tag (KRS-H51H4AI) is expressed from *E. coli* cells. It contains AA Thr 2 - Cys 185 (Accession # P01116-2 (G12D)).

Molecular Characterization

KRAS Structure

This protein carries a polyhistidine tag at the N-terminus.

The protein has a calculated MW of 23.0 kDa. The protein migrates as 25-27 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE).

Purity

>90% as determined by SDS-PAGE.

>90% as determined by SEC-HPLC.

Formulation

Formulated in a proprietary trehalose-free buffer, supplied ready-to-use for SPR/BLI analysis - no buffer exchange required.

For detailed formulation, please refer to the batch-specific COA.

Shipping and Storage

This product is supplied and shipped on dry ice.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- The product MUST be stored at -70°C or lower upon receipt;
- -70°C for 12 months under sterile conditions.

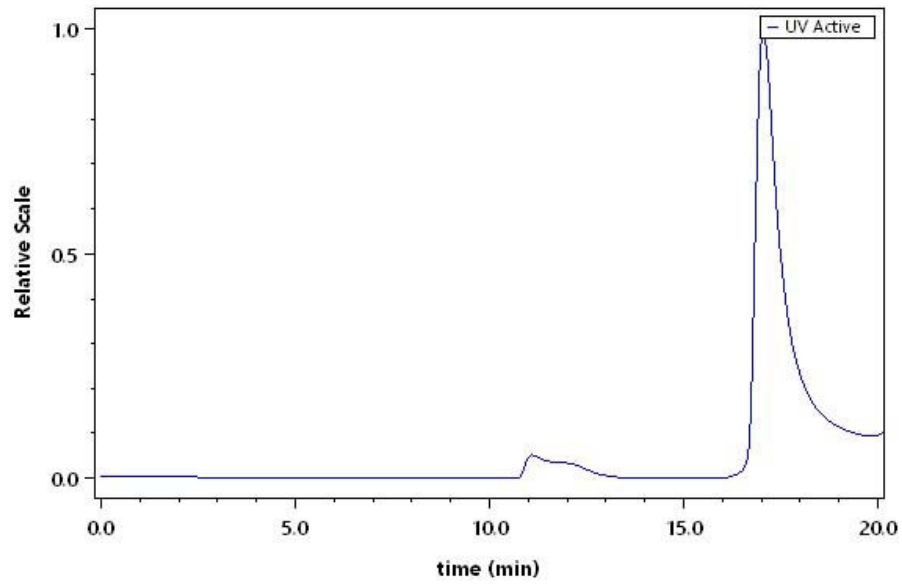
ACRO Quality Management System

- QMS(ISO, GMP)
- Quality Advantages
- Quality Control Process

SDS-PAGE

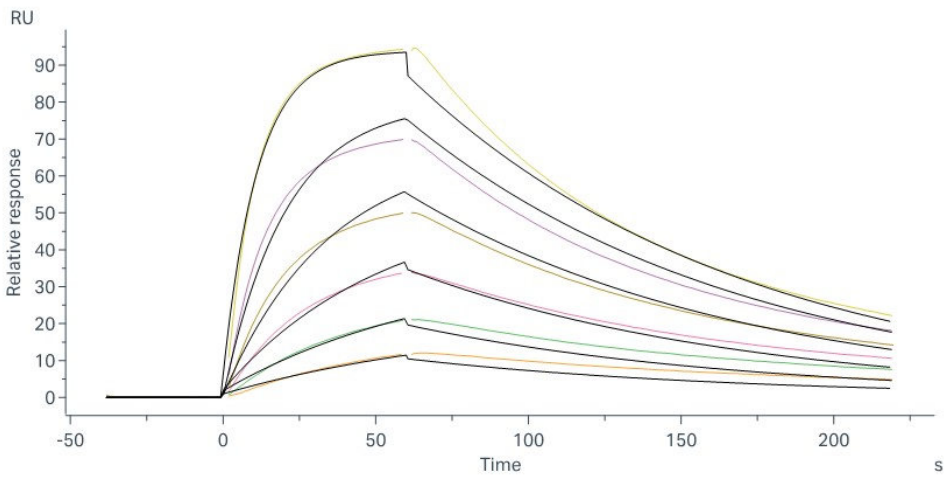
Human KRAS (2-185, G12D) Protein, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With Star Ribbon Pre-stained Protein Marker).

SEC-HPLC



The purity of Human KRAS (2-185, G12D) Protein, His Tag (Cat. No. KRS-H51H4AI) was greater than 90% as determined by SEC-HPLC.

Activity-SPR



Recombinant Human SOS1 Protein (His Tag), Active immobilized on CM5 Chip can bind Human KRAS (2-185, G12D) Protein, His Tag (Cat. No. KRS-H51H4AI) with an affinity constant of 28.8 nM as determined in a SPR assay (Biacore 8K) (QC tested).

Background

KRAS (Kirsten rat sarcoma 2 viral oncogene homolog) gene is a proto-oncogene that encodes a small GTPase transductor protein called KRAS. KRAS is also known as Ki-Ras, c-K-ras and c-Ki-ras. Ras proteins bind GDP/GTP and possess intrinsic GTPase activity. Plays an important role in the regulation of cell proliferation, promoting oncogenic events by inducing transcriptional silencing of tumor suppressor genes (TSGs) in colorectal cancer (CRC) cells in a ZNF304-dependent manner. RAS is one of the most frequently mutated oncogenes in human cancer but the frequency and distribution of RAS gene mutations are not uniform. In details, mutation of glycine 12 (G12) causes RAS activation by interfering with GAP binding and GAP-stimulated GTP hydrolysis. The reference shows the pathway may as a potential therapy targets.

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