Human STAT3 Protein, His Tag (MALS & SPR verified)

Catalog # ST3-H5149

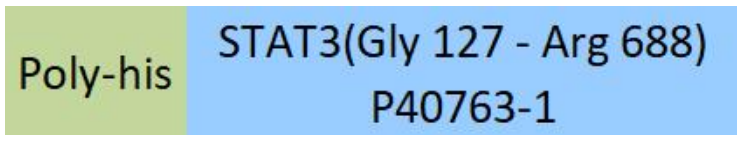
Synonym

STAT3, signal transducer and activator of transcription 3

Source

Human STAT3, His Tag(ST3-H5149) is expressed from E. coli cells. It contains AA Gly 127 - Arg 688 (Accession # P40763-1).
Predicted N-terminus: Met

Molecular Characterization



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

The protein has a calculated MW of 66.4 kDa. The protein migrates as 66-70 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE).

Endotoxin

Less than 1.0 EU per μg by the LAL method / rFC method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

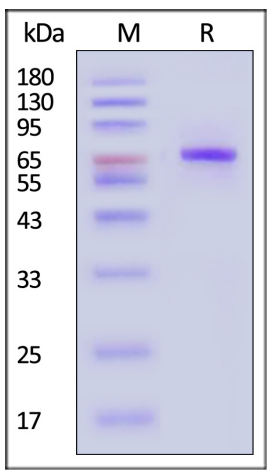
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

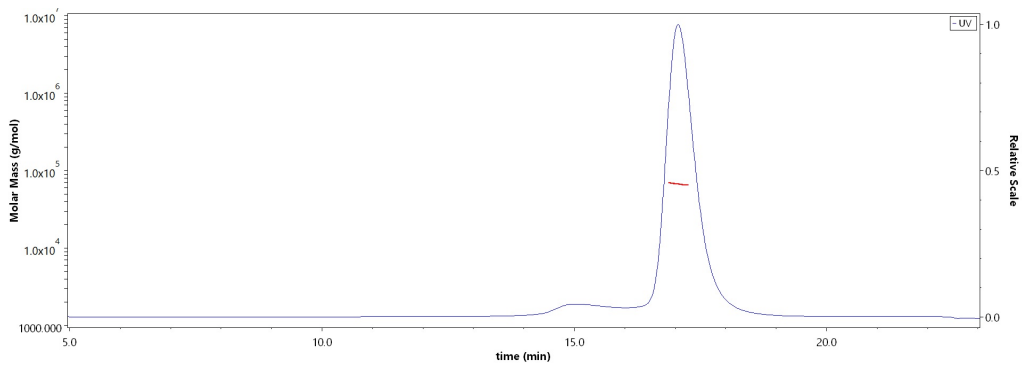
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



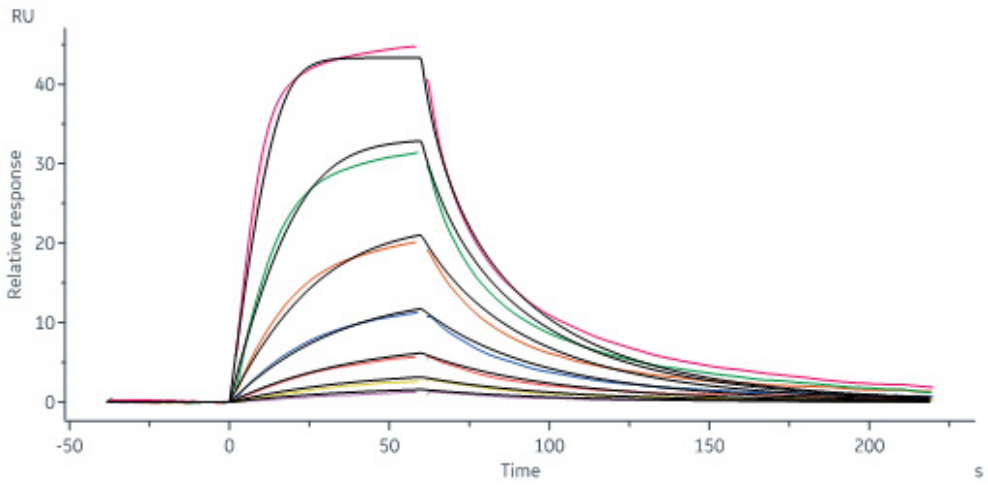
Human STAT3, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

SEC-MALS



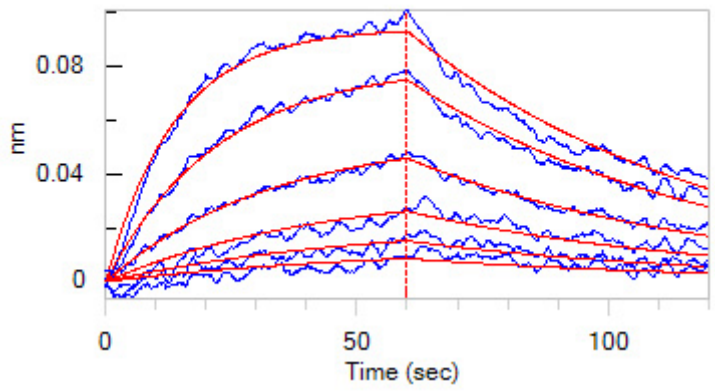
The purity of Human STAT3, His Tag (Cat. No. ST3-H5149) is more than 85% and the molecular weight of this protein is around 60-75 kDa verified by SEC-MALS.
Report

Bioactivity-SPR



Human STAT3, His Tag (Cat. No. ST3-H5149) immobilized on CM5 Chip can bind STAT3 degrader with an affinity constant of 44.6 nM as determined in a SPR assay (Biacore 8K) (QC tested).

Bioactivity-BLI



Loaded Human STAT3, His Tag (Cat. No. ST3-H5149) on NTA Biosensor, can bind STAT3 degrader with an affinity constant of 29.4 nM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Background

Signal transducer and activator of transcription 3 (STAT3) regulates the expression of genes important for essential cellular processes including survival, proliferation, self-renewal, angiogenesis, and immune response. As an early tumor diagnostic marker, it is considered that constitutive STAT3 activation is a sufficient factor to cause malignant transformation and tumor development in model systems. The classical IL-6/STAT3 signaling pathway in cancer cells. IL-6 binds to the membrane-bound IL-6 receptor α (IL-6R) and IL-6 receptor β (also known as gp130). The IL-6/IL-6R/gp130 complex activate the phosphorylation of JAKs, followed by STAT3 phosphorylation and activation. Then, phosphorylated STAT3 forms a homodimer and translocates into the nucleus to bind to the promotor region of target genes and activates target gene transcription.