



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human SCOS3 Protein
Catalog Number: hRP-1732
Manufacturer: LD Biopharma, Inc.

Introduction

Human suppressor of cytokine signaling-3 (SOCS3) gene encodes a member of the STAT-induced STAT inhibitor (SSI), also known as suppressor of cytokine signaling (SOCS), family. SSI family members are cytokine-inducible negative regulators of cytokine signaling. The expression of this gene is induced by various cytokines, including IL6, IL10, and interferon (IFN)-gamma. The protein encoded by this gene can bind to JAK2 kinase, and inhibit the activity of JAK2 kinase. Studies of the mouse counterpart of this gene suggested the roles of this gene in the negative regulation of fetal liver hematopoiesis, and placental development. Recent data indicated that SOCS3 could regulate onset and maintenance of allergic responses mediated by T-helper type 2 cells. It also regulates IL-6 signaling in vivo. Probable substrate recognition component of a SCF-like ECS (Elongin BC-CUL2/5-SOCS-box protein) E3 ubiquitin-protein ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins. Seems to recognize IL6ST.

Full-length human SCOS3 cDNA (224aa, derived from BC060858) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: SCOS3 (ATOD4; CIS3; Cish3; SSI-3)
Accession Number: NP_003946.3
Species: Human
Size: 20 µg / Vial
Composition: 0.2 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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Key References

Sedeno-Monge V, et al., *Quantitative analysis of the suppressors of cytokine signaling 1 and 3 in peripheral blood leukocytes of patients with multiple sclerosis*. J. Neuroimmunol. 273 (1-2), 117-119 (2014)

Santillan-Benitez JG, et al., *JAK2, STAT3 and SOCS3 gene expression in women with and without breast cancer*. Gene 547 (1), 70-76 (2014)

Koay LC, et al., *Cannabinoid-induced autophagy regulates suppressor of cytokine signaling-3 in intestinal epithelium*. Am. J. Physiol. Gastrointest. Liver Physiol. 307 (2), G140-G148. (2014)

Du LY, et al., *Correlation between the suppressor of cytokine signaling-1 and 3 and hepatitis B virus: possible roles in the resistance to interferon treatment*. Virol. J. 11, 51 (2014)

Applications

1. May be used for in vitro SCOS3 mediated JAK2 pathway regulation study for T cells with “ProFectin” reagent based intracellular delivery of this protein.
2. May be used for mapping SCOS3 protein-protein interaction.
3. May be used as specific substrate protein for kinase, and ubiquitin (Sumo pathway) related enzyme functional screening assays.
4. Potential biomarker protein, by monitoring T cell activity for the treatment of auto immune disease.
5. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFVTHSKFPAAGMSRPLDTSRLKTFSSKSEYQLVVN
AVRKLQESGFYWSAVTGGEANLLLSAEPAGTFLIRDSSDQRHFFTLSVKTQSGTKNLRIQCEGG
SFSLQSDPRSTQPVPRFDCVLKLVHHYMPPPGAPSPFPSPTEPSSEVPEQPSAQPLPGSPRRRA
YYIYSGGEKIPLVLSRPLSSNVATLQHLCRKTVNGHLDSYEKVTQLPGPIREFLDQYDAPL