LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human S100A9 Protein
Catalog Number: hRP-1705
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human S100A9 gene is a member of the S100 family of proteins containing 2 EF-hand calcium-binding motifs. S100 proteins are localized in the cytoplasm and/or nucleus of a wide range of cells, and involved in the regulation of a number of cellular processes such as cell cycle progression and differentiation. S100 genes include at least 13 members, which are located as a cluster on chromosome 1q21. S100A9 protein may function in the inhibition of casein kinase and altered expression of this protein is associated with the disease cystic fibrosis. This anti-microbial protein exhibits antifungal and antibacterial activity. Recent data indicated that S100A9 may also plays roles in tumor development and inflammation pathway regulations.

Full-length human S100A9 cDNA (113aa) was constructed using gene synthesis technology with codon optimization and expressed with a human Alpha-Fetal Protein N-terminal domain (AFPn)-His Tag (209aa) fusion at its N-terminal. This protein was 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:	S100A9 (60B8Ag; CAGB; CFAG; CGLB; L1AG; MIF; NIF)
Accession Number:	NP_002956
Species:	Human
Size:	50 µg / Vial
Composition:	**1.**0 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

van Bon L, et al., *Proteomic analysis of plasma identifies the Toll-like receptor agonists S100A8/A9 as a novel possible marker for systemic sclerosis phenotype.* Ann. Rheum. Dis. 73 (8), 1585-1589 (2014)

Tidehag V, et al., *High density of S100A9 positive inflammatory cells in prostate cancer stroma is associated with poor outcome*. Eur. J. Cancer 50 (10), 1829-1835 (2014)

Wang,Y., et al., *Platelet-derived S100 family member myeloid-related protein-14 regulates thrombosis*. J. Clin. Invest. 124 (5), 2160-2171 (2014)

Wang L, et al., *Functional characterization of S100A8 and S100A9 in altering monolayer permeability of human umbilical endothelial cells* PLoS ONE 9 (3), E90472 (2014)

Applications

1. May be used for in vitro S100A9 mediated tumor cell differentiation / migration regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as S100A9 protein-protein interaction assay.
3. Potential biomarker for clinical applications such as monitoring cancer progress or systemic sclerosis development stages.
4. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDE
QSSGCLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPV
TSCEAYEEDRETFMNKFIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATV
TKELRESSGGSHHHHHHGSTCKMSQLERNIETIINTFHQYSVKLGHPDTLNQGEFKELVRKDLQ
NFLKKENKNEKVIEHIMEDLDTNADKQLSFEEFIMLMARLTWASHEKMHEGDEGPGHHHKPGLG
EGTP