LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: **Recombinant Human TREM2 Protein**

Catalog Number: HRP-1040

Manufacturer: *LD Biopharma, Inc.*

Introduction

Human triggering receptor expressed on myeloid cell 2 (TREM2) gene encodes a membrane protein that forms a receptor signaling complex with the TYRO protein tyrosine kinase binding protein. The encoded protein functions in immune response and may be involved in chronic inflammation by triggering the production of constitutive inflammatory cytokines. Defects in this gene are a cause of polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOSL). Recent data indicated that TREM2 mutation (R47H) plays an important role in Alzheimer's disease development and TREM2 also acts downstream of CD33 pathway in modulating microglial pathogenesis in controlling neuronal inflammation.

Extracellular domain of human TREM2 cDNA (19-174aa, isoforms-I, derived from BC032362) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal 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:	TREM2	(Trem2a; Trem2b; Trem2c)
Accession Number:	NP_016838	
Species:	Human	
Size:	30 µg / Vial	
Composition:	0.3 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT, Glycerol and others	
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

Ana Griciuc., et al., ***TREM2 acts Downstream of CD33 in Modulating Microglial Pathology in Alzheimer's disease***. Neuron 103, 1-16.(2019).

Cella,M., et al., ***Impaired differentiation of osteoclasts in TREM-2-deficient individuals***. J. Exp. Med. 198 (4), 645-651 (2003).

Rita Guerreiro, et al., ***TREM2 variants in Alzheimer Disease***. N Engl Med. 2012. DOI: 10.1056/NEJMoa1211851

Applications

- May be used for study TREM2 mediated neuronal cell signaling regulations in vitro for Alzheimer Disease using either recombinant TREM2 protein for coating matrix or soluble factor.
- May be used for TREM2 protein-protein interaction assay or ligand binding screen.
- High purified native TREM2 antigen, which may be used for specific antibody production.

Quality Control:

1. Purity: > 90 % by SDS-PAGE.

Recombinant Human TREM2 Protein Sequence (20.6 kD)

MASMTGGQQMGRGHHHHHHGNLYFQG**GEF**HNTTVFQGVAGQSLQVSCPYDSMKHWGRRKAWCRQ
LGEKGPCQRVVSTHNLWLLSFLRRWNGSTAITDDTLGGTLTITLRNLQPHDAGLYQCQSLHGSE
ADTLRKVLVEVLADPLDHRDAGDLWFPGESESFEDAHVEHSISRSLLEGEIPFPPTS