



LD Biopharma, Inc.
9924 Mesa Rim Road, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IL1RL1 Protein
Catalog Number: hRP-1772
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human interleukin-1 receptor-like-1 (IL1RL1) gene encodes a receptor for IL-33, its stimulation recruits MYD88, IRAK1, IRAK4, and TRAF6, followed by phosphorylation of MAPK3/ERK1 and/or MAPK1/ERK2, MAPK14, and MAPK8. It is possibly involved in helper T-cell function. Recent data indicated that IL1RAP interacts with IL1RL1, and IL1RAP, and this interaction plays a role in Alzheimer pathogenesis.

Full-length extracellular domain of human IL1RL1 cDNA (19 – 328aa, Isoform-II, derived from BC030975) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) 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: IL1RL1 (DER4; FIT-1; IL33R; ST2; ST2L; ST2V; T1)
Accession Number: NP_003847
Species: Human
Size: 50 µg / Vial
Composition: 0.5 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.

Key References

Vijay K Ramanan, et al., *GWAS of longitudinal amyloid accumulation on 18F-florbetapir PET in Alzheimer's disease implicates microglial activation gene IL1RAP*. *Brian*. Vol 138, Issue 10. Pp3076-3088 (2015)

Jilu Zhang, et al., *ST2 blockade reduces sST2-producing T cells while maintaining protective mST-expressing T cells during graft-versus-host disease*. *Science Translation*



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Medicine Vol:7, Issue 308. 308ra160 (2015).

Ingrid Granne, et al., *ST2 and IL-33 in pregnancy & Pre-Eclampsia*. Plus ONE 6(9):e24463. (2011).

Baba S, et al., *Expression of IL-33 and its receptor ST2 in chronic rhinosinusitis with nasal polyps*. Laryngoscope 124 (4), E115-E122 (2014)

Tu X, et al., *The IL-33-ST2L pathway is associated with coronary artery disease in a Chinese Han population*. Am. J. Hum. Genet. 93 (4), 652-660 (2013)

Ho JE, et al., *Common genetic variation at the IL1RL1 locus regulates IL-33/ST2 signaling*. J. Clin. Invest. 123 (10), 4208-4218 (2013)

Liu X, et al., *Structural insights into the interaction of IL-33 with its receptors*. Proc. Natl. Acad. Sci. U.S.A. 110 (37), 14918-14923 (2013)

Applications

1. May be used for in vitro IL1RL1 mediated T cell activation in IL-33 regulatory pathway study with this protein either as soluble factor or as coating matrix protein.
2. May be used for mapping IL1RL1 protein-protein interaction.
3. Potential biomarker protein for diagnostic applications, such as preeclampsia or GVHD et al.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFGSKFSKQSWGLENEALIVRCPRQGKPSYTVDWYYS
QTNKSIPTQERNRVFASGQLLKFLPAAVADSGIYTCIVRSPTFNRTGYANVTIYKKQSDCNVPD
YLMYSTVSGSEKNSKIYCPTIDLYNWTAPLEWFKNCQALQGSRYRAHKSFLVIDNVMTEADAGDY
TCKFIHNENGANYSVTATRSFTVKDEQGFSLFPVIGAPAQNEIKEVEIGKNANLTCSACFGKGT
QFLAAVLWQLNGTKITDFGEPRIQQEEGQNQSFSNGLACLDMVLRIADVKEEDLLLQYDCLALN
LHGLRRHTVRLSRKNPIDHHS