



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human IL1RAP Protein
Catalog Number: hRP-1824
Manufacturer: LD Biopharma, Inc.

Introduction

Human interleukin-1 receptor accessory protein (IL1RAP) plays a role as co-receptor for IL1RL2 in the IL-36 signaling system, and co-receptor with IL1R1 in the IL-1 signaling system. It associates with IL1R1 bound to IL1B to form the high affinity interleukin-1 receptor complex which mediates interleukin-1-dependent activation of NF-kappa-B and other pathways. Signaling involves the recruitment of adapter molecules such as TOLLIP, MYD88, and IRAK1 or IRAK2 via the respective TIR domains of the receptor/coreceptor subunits. Recruits TOLLIP to the signaling complex. Does not bind to interleukin-1 alone; binding of IL1RN to IL1R1, prevents its association with IL1R1 to form a signaling complex. The cellular response is modulated through a non-signaling association with the membrane IL1R2 decoy receptor. Secreted forms of IL1RAP (isoforms 2 and 3) associate with secreted ligand-bound IL1R2 and increase the affinity of secreted IL1R2 for IL1B; this complex formation may be the dominant mechanism for neutralization of IL1B by secreted / soluble receptors.

Extracellular domain of human IL1RAP cDNA (21 – 367aa) was constructed with codon optimization using gene synthesis technology 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: IL1RAP (C3orf13; IL1R3)
Accession Number: NP_002173
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.



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Key References

Chen R, et al., *The E3 ubiquitin ligase MARCH8 negatively regulates IL-1beta-induced NF-kappaB activation by targeting the IL1RAP coreceptor for ubiquitination and degradation.* Proc. Natl. Acad. Sci. U.S.A. 109 (35), 14128-14133 (2012)

Barreyro L, et al., *Overexpression of IL-1 receptor accessory protein in stem and progenitor cells and outcome correlation in AML and MDS* Blood 120 (6), 1290-1298 (2012)

Qian J, et al., *Interleukin-1R3 mediates interleukin-1-induced potassium current increase through fast activation of Akt kinase* Proc. Natl. Acad. Sci. U.S.A. 109 (30), 12189-12194 (2012)

Applications

1. May be used for in vitro IL1RAP mediated NFkb activity regulation study in both IL1 and IL36 signaling pathway with this protein either as soluble factor or as coating matrix protein.
2. May be used for protein-protein interaction mapping.
3. Potential biomarker/therapeutic protein for various cancer treatment by targeting IL1RAP with specific antibody.
4. As immunogen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHENLYFQGGEFSERCDDWGLDTMRQIQVFEDEPARIKCPLFEHFLK
FNYSTAHSAGLTLIYWTRQDRDLEEPINFRLPENRISKEKDVLWFRPTLLNDTGNYTCMLRNT
TYCSKVAFPLEVVQKDCFNSPMKLPVHKLYIEYGIQRITCPNVDGYFPSSVKPTITWYMGCYK
IQNFNNVIPEGMNL SFLIALISNNGNYTCVVVTPENGRTFHLTRTLTVKVVGSPKNAVPPVIHS
PNDHVVEYEKEPGEELLIPTVYF SFLMDSRNEVWWTIDGKKPDDITIDVTINESISHSRTEDET
RTQILSIKKVTSEDLKRSYVCHARSAKGEVAKAAKVQKVPAPRYTVELACGFGAT