

IL-1R2 Protein, Human (HEK293, His)

| | |
|--------------------------|--|
| Cat. No.: | HY-P72567 |
| Synonyms: | Interleukin-1 receptor type 2; IL-1R-2; CDw121b; IL-1R-beta; CD121b; mL-1R2; sIL-1R2 |
| Species: | Human |
| Source: | HEK293 |
| Accession: | P27930/NP_004624.1 (F14-E343) |
| Gene ID: | 7850 |
| Molecular Weight: | Approximately 50 kDa |

PROPERTIES

| | |
|--------------------------------|---|
| AA Sequence | <pre> FTLQPA AHTG AARSCRFRGR HYKREFRLEG EPVALRCPQV PYWLWASVSP RINLTWHKND SARTVPGEEE TRMWAQDGAL WLLPALQEDS GTYVCTTRNA SYCDKMSIEL RVFENTDAFL PFISYPQILT LSTSGVLVCP DLSEFTRDKT DVKIQWYKDS LLLDKDKNEKF LSVRGTTHTL VHDVALEDAG YYRCVLTFAH EGQQYNITRS IELRIKKKKE ETIPVVISPL KTISASLGSR LTI PCKVFLG TGTPLTTMLW WTANDTHIES AYPGGRVTEG PRQEYSENNE NYIEVPLIFD PVTREDLHMD FKC VVHNTLS FQTLRRTT VKE </pre> |
| Biological Activity | Immobilized Human IL-1R2, His Tag at 1µg/ml (100µl/Well) on the plate. Dose response curve for Biotinylated Human IL-1 Beta, His Tag with the EC ₅₀ of 15.1ng/ml determined by ELISA. |
| Appearance | Lyophilized powder. |
| Formulation | Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. |
| Endotoxin Level | <1 EU/µg, determined by LAL method. |
| Reconstitution | It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose). |
| Storage & Stability | Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage. |
| Shipping | Room temperature in continental US; may vary elsewhere. |

DESCRIPTION

Background

IL-1R2 is the non-signaling type 2 interleukin-1 receptor and is natively found on neutrophils, B-cells, monocytes and macrophages. IL-1R2 is also expressed in breast and colon cancer cells. IL-1R2 is rapidly upregulated in human regulatory T cells (Tregs). The human IL-1R2 can be cleaved into two forms: membrane form (14-398 a.a) and soluble form (14-? a.a). The sequence of amino acids in IL-1R2 from human shows low similarity (about 60%) with both mouse and rat IL-1R2. IL-1R2 contains truncated cytoplasmic domain and lacks Toll-IL-1 receptor (TIR) region, making it incapable of transmembrane signaling. IL-1R2 serves as an endogenous inhibitor of IL-1 signaling. Functional IL-1 signaling requires IL-1R1 and IL-1-dependent recruitment of IL-1RAP. IL-1R2 serves as a decoy receptor and can compete with IL-1R1 for IL-1. IL-1R2 can also form a complex with IL-1RAP once it binds IL-1, preventing IL-1RAP from heterodimerizing with IL-1R1. Through these 2 ways, IL-1R2 blocks IL-1 signaling. Additionally, soluble IL-1R2 recruits soluble IL-1RAP with high affinity without impacting affinity for IL-1RA.

IL-1R2 inhibits IL-1 signaling and has been implicated in various IL-1-mediated inflammatory diseases like arthritis, diabetes, gout and so on^{[1][2][3]}.

REFERENCES

- [1]. Peters VA, et al. IL-1 receptor 2 (IL-1R2) and its role in immunoregulation. *Brain Behav Immun*. 2013 Aug;32:1-8.
- [2]. Molgora M, et al. Tuning inflammation and immunity by the negative regulators IL-1R2 and IL-1R8. *Immunol Rev*. 2018 Jan;281(1):233-247.
- [3]. Lin J, et al. Cardiomyocyte IL-1R2 protects heart from ischemia/reperfusion injury by attenuating IL-17RA-mediated cardiomyocyte apoptosis. *Cell Death Dis*. 2022 Jan 27;13(1):90.
- [4]. Khoufache K, et al. Soluble human IL-1 receptor type 2 inhibits ectopic endometrial tissue implantation and growth: identification of a novel potential target for endometriosis treatment. *Am J Pathol*. 2012 Oct;181(4):1197-205.
- [5]. Uchikawa S, et al. ADAM17 regulates IL-1 signaling by selectively releasing IL-1 receptor type 2 from the cell surface. *Cytokine*. 2015 Feb;71(2):238-45.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA