10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

IL4I1 Blocking Peptide (C-Term)

Synthetic peptide
Catalog # BP22006b

Specification

IL4I1 Blocking Peptide (C-Term) - Product Information

Primary Accession Q96RQ9

IL4I1 Blocking Peptide (C-Term) - Additional Information

Gene ID 259307

Other Names
L-amino-acid oxidase, LAAO, LAO, 1.4.3.2, Interleukin-4-induced protein 1, IL4-induced protein 1, Protein Fig-1, hFIG1, IL4I1, FIG1

Target/Specificity
The synthetic peptide sequence is selected from aa 411-422 of HUMAN IL4I1

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

IL4I1 Blocking Peptide (C-Term) - Protein Information

Name IL4I1 {ECO:0000303|PubMed:16029492}

Function
Secreted L-amino-acid oxidase that acts as a key immunoregulator (PubMed:17356132, PubMed:32818467, PubMed:32866000). Has preference for L-aromatic amino acids: converts phenylalanine (Phe), tyrosine (Tyr) and tryptophan (Trp) to phenylpyruvic acid (PP), hydroxyphenylpyruvic acid (HPP), and indole-3-pyruvic acid (I3P), respectively (PubMed:17356132, PubMed:32818467, PubMed:32866000). Also has weak L-arginine oxidase activity (PubMed:26673964). Acts as a negative regulator of anti-tumor immunity by mediating Trp degradation via an indole pyruvate pathway that activates the transcription factor AHR (PubMed:<a href="http://www.uniprot.org/citations/32818467"

target="_blank">32818467, PubMed:32866000). IL4I1-mediated Trp catabolism generates I3P, giving rise to indole metabolites (indole-3-acetic acid (IAA) and indole-3-aldehyde (I3A)) and kynurenic acid, which act as ligands for AHR, a ligand-activated transcription factor that plays important roles in immunity and cancer (PubMed:32818467, PubMed:32866000). AHR activation by indoles following IL4I1-mediated Trp degradation enhances tumor progression by promoting cancer cell motility and suppressing adaptive immunity (PubMed:32818467). Also has an immunoregulatory function in some immune cells, probably by mediating Trp degradation and promoting downstream AHR activation: inhibits T-cell activation and proliferation, promotes the differentiation of naive CD4(+) T-cells into FOXP3(+) regulatory T- cells (Treg) and regulates the development and function of B-cells (PubMed:17356132, PubMed:25446972, PubMed:25778793, PubMed:28891065). Also regulates M2 macrophage polarization by inhibiting T-cell activation (By similarity). Also has antibacterial properties by inhibiting growth of Gram negative and Gram positive bacteria through the production of NH4(+) and H2O2 (PubMed:23355881).

Cellular Location
Secreted. Lysosome {ECO:0000250|UniProtKB:O09046}. Cytoplasmic vesicle, secretory vesicle, acrosome. Note=Secreted at the immunological synapse.

Tissue Location
Primarily found in immune tissues, with the highest expression in lymph nodes and spleen (PubMed:12031486, PubMed:12446450). Present in germinal center macrophages and inflammatory myeloid cells and antigen-presenting cells (at protein level) (PubMed:17356132). Also present in spermatozoa (at protein level) (PubMed:25767141). Highly expressed in primary mediastinal large B-cell lymphoma, a specific subtype of diffuse large B-cell lymphoma (PubMed:12446450). Expressed by neoplastic cells of several B-cell lymphomas and by tumor-associated macrophages (PubMed:19436310)

IL4I1 Blocking Peptide (C-Term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

IL4I1 Blocking Peptide (C-Term) - Images

IL4I1 Blocking Peptide (C-Term) - Background

Lysosomal L-amino-acid oxidase with highest specific activity with phenylalanine. May play a role in lysosomal antigen processing and presentation (By similarity).

IL4I1 Blocking Peptide (C-Term) - References

Chavan S.S.,et al.Biochim. Biophys. Acta 1576:70-80(2002).
Wiemann S.,et al.BMC Biol. 3:16-16(2005).
Chu C.C.,et al.Submitted (MAY-2005) to the EMBL/GenBank/DDBJ databases.
Jikuya H.,et al.Submitted (JAN-2002) to the EMBL/GenBank/DDBJ databases.
Clark H.F.,et al.Genome Res. 13:2265-2270(2003).