

# IL-12A Antibody

Catalog # ASC11706

## Specification

# IL-12A Antibody - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Isotype Calculated MW

WB, E <u>P29459</u> <u>NP\_000873</u>, <u>24430219</u> Human Rabbit Polyclonal IgG Predicted: 22 kDa

Application Notes

Observed: 22 kDa KDa IL-12A antibody can be used for detection of IL-12A by Western blot at 0.5 - 1 μg/ml.

## IL-12A Antibody - Additional Information

Gene ID 3592 Target/Specificity IL 12A; IL-12A antibody is human specific. IL-12A antibody will not cross-react with IL-12B.

**Reconstitution & Storage** IL-12A antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

**Precautions** IL-12A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## IL-12A Antibody - Protein Information

Name IL12A

Synonyms NKSF1

Function

Heterodimerizes with IL12B to form the IL-12 cytokine or with EBI3/IL27B to form the IL-35 cytokine (PubMed:<a href="http://www.uniprot.org/citations/8605935"

target="\_blank">8605935</a>, PubMed:<a href="http://www.uniprot.org/citations/8943050" target="\_blank">8943050</a>). IL-12 is primarily produced by professional antigen-presenting cells (APCs) such as B-cells and dendritic cells (DCs) as well as macrophages and granulocytes and regulates T-cell and natural killer-cell responses, induces the production of interferon-gamma (IFN-gamma), favors the differentiation of T-helper 1 (Th1) cells and is an important link between innate resistance and adaptive immunity (PubMed:<a

href="http://www.uniprot.org/citations/1673147" target="\_blank">1673147</a>, PubMed:<a href="http://www.uniprot.org/citations/1674604" target="\_blank">1674604</a>, PubMed:<a href="http://www.uniprot.org/citations/8605935" target="\_blank">8605935</a>).



Mechanistically, exerts its biological effects through a receptor composed of IL12R1 and IL12R2 subunits (PubMed:<a href="http://www.uniprot.org/citations/8943050"

target="\_blank">8943050</a>). Binding to the receptor results in the rapid tyrosine phosphorylation of a number of cellular substrates including the JAK family kinases TYK2 and JAK2 (PubMed:<a href="http://www.uniprot.org/citations/7528775" target="\_blank">7528775</a>). In turn, recruited STAT4 gets phosphorylated and translocates to the nucleus where it regulates cytokine/growth factor responsive genes (PubMed:<a

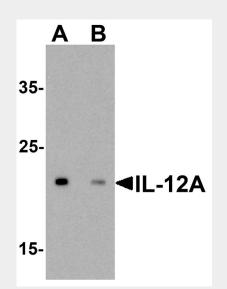
href="http://www.uniprot.org/citations/7638186" target="\_blank">7638186</a>). As part of IL-35, plays essential roles in maintaining the immune homeostasis of the liver microenvironment and also functions as an immune-suppressive cytokine (By similarity). Mediates biological events through unconventional receptors composed of IL12RB2 and gp130/IL6ST heterodimers or homodimers (PubMed:<a href="http://www.uniprot.org/citations/22306691" target="\_blank">22306691</a>). Signaling requires the transcription factors STAT1 and STAT4, which form a unique heterodimer that binds to distinct DNA sites (PubMed:<a href="http://www.uniprot.org/citations/22306691</a>).

Cellular Location Secreted

## IL-12A Antibody - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- <u>Immunofluorescence</u>
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>
- IL-12A Antibody Images



Western blot analysis of IL-12A in HeLa cell lysate with IL-12A antibody at 0.5  $\mu$ g/ml in (A) the absence and (B) the presence of blocking peptide.

#### IL-12A Antibody - Background



IL-12A is subunit of the cytokine IL-12 which acts on T- and natural killer cells, and has a broad array of biological activities. IL-12 is a disulfide-linked heterodimer composed of the 35-kD subunit and a 40-kD subunit that is a member of the cytokine receptor family (1). IL-12 is required for the T-cell-independent induction of interferon (IFN)-gamma, and is important for the differentiation of both Th1 and Th2 cells (1,2). The responses of lymphocytes to IL-12 are mediated by the activator of transcription protein STAT4 (2). Nitric oxide synthase 2A (NOS2A/NOS2) is found to be required for the signaling process of this cytokine in innate immunity (3).

#### IL-12A Antibody - References

Gee K, Guzzo C, Che Mat NF, et al. The IL-12 family of cytokines in infection, inflammation and autoimmune disorders. Inflamm. Allergy Drug Targets 2009; 8:40-52. Sinigaglia F, D'Ambrosio D, Panina-Bordignon P, et al. Regulation of the IL-12/IL-12R axis: a critical step in T-helper cell differentiation and effector function. Immunol. Rev. 1999; 170:65-72. Bogdan C, Rollinghoff M, and Diefenbach A. The role of nitric oxide in innate immunity. Immunol. Rev. 2000; 173:17-26.