

IL-1F7 (S-12): sc-168153

BACKGROUND

IL-1 (Interleukin-1) is a cytokine responsible for initiating a variety of activities through the activation of transcription factors, NF κ B and AP-1, thereby promoting host response to injury or infection. The IL-1 superfamily is comprised of several ligands and receptors. IL-1F7, also known as IL-1 ζ , IL-1 homolog 4 (IL-1H4) or IL-1 related protein 1 (IL-1rp1), is a secreted ligand belonging to this superfamily. It is expressed in the cytoplasm of peripheral monocytic cells localizing to the inner surface of the plasma membrane and surrounding the nuclear membrane suggesting that IL-1F7 may play a role in immune regulation. Five isoforms exist for this protein due to alternative splicing and they are designated IL-1F7a through IL-1F7e. Isoform a has a distinct N-terminus while isoforms c-d are truncated. Isoform b is the mature functional isoform that binds to the IL-18R α -chain and the IL-18 binding protein (IL-18BP) acting as an IL-18 antagonist. IL-1F7 is closely related to IL-1ra, sharing 36% sequence identity.

REFERENCES

1. Bufler, P., et al. 2002. A complex of the IL-1 homologue IL-1F7b and IL-18-binding protein reduces IL-18 activity. *Proc. Natl. Acad. Sci. USA* 99: 13723-13728.
2. Kumar, S., et al. 2002. Interleukin-1F7B (IL-1H4/IL-1F7) is processed by caspase-1 and mature IL-1F7B binds to the IL-18 receptor but does not induce IFN- γ production. *Cytokine* 18: 61-71.
3. Nicklin, M.J., et al. 2002. A sequence-based map of the nine genes of the human interleukin-1 cluster. *Genomics* 79: 718-725.
4. Bufler, P., et al. 2004. Interleukin-1 homologues IL-1F7b and IL-18 contain functional mRNA instability elements within the coding region responsive to lipopolysaccharide. *Biochem. J.* 381: 503-510.
5. Dinarello, C.A. 2004. The IL-1 family and inflammatory diseases. *Clin. Exp. Rheumatol.* 20: S1-S13.
6. Rahman, P., et al. 2006. Association between the interleukin-1 family gene cluster and psoriatic arthritis. *Arthritis Rheum.* 54: 2321-2325.
7. Lewis, E.C., et al. 2006. Responses of IL-18- and IL-18 receptor-deficient pancreatic islets with convergence of positive and negative signals for the IL-18 receptor. *Proc. Natl. Acad. Sci. USA* 103: 16852-16857.
8. Dinarello, C.A. 2006. Interleukin 1 and interleukin 18 as mediators of inflammation and the aging process. *Am. J. Clin. Nutr.* 83: 447S-455S.
9. Boraschi, D., et al. 2007. IL-18 in autoimmunity: review. *Eur. Cytokine Netw.* 17: 224-252.

CHROMOSOMAL LOCATION

Genetic locus: IL37 (human) mapping to 2q13.

SOURCE

IL-1F7 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IL-1F7 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168153 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

IL-1F7 (S-12) is recommended for detection of IL-1F7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other IL-1F family members.

Suitable for use as control antibody for IL-1F7 siRNA (h): sc-94860, IL-1F7 shRNA Plasmid (h): sc-94860-SH and IL-1F7 shRNA (h) Lentiviral Particles: sc-94860-V.

Molecular Weight of IL-1F7: 30 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **IL-1F7 (6A6): sc-517072**, our highly recommended monoclonal alternative to IL-1F7 (S-12).