SANTA CRUZ BIOTECHNOLOGY, INC.

IL-1F7 (6A6): sc-517072

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

IL-1 (interleukin-1) is a cytokine responsible for initiating a variety of activities through the activation of transcription factors, NFκB 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-1ζ, 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-18Rα-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. Dinarello, C.A. 2002. The IL-1 family and inflammatory diseases. Clin. Exp. Rheumatol. 20: S1-S13.
5. 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.
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. and Dinarello, C.A. 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.

CHROMOSOMAL LOCATION

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

SOURCE

IL-1F7 (6A6) is a mouse monoclonal antibody raised against amino acids 1-218 representing full length IL-1F7 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

IL-1F7 (6A6) is recommended for detection of IL-1F7 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

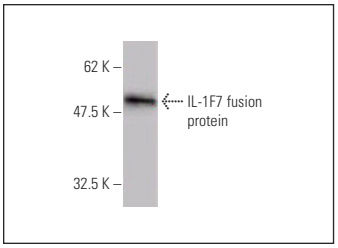
Suitable for use as control antibody for IL-1F7 siRNA (h): sc-94860, IL-1F7 shRNA Plasmid (h): sc-94860-SH and IL-1F7 shRNA (h) Lentiviral Particles: sc-94860-V.

Molecular Weight of IL-1F7: 30 kDa.

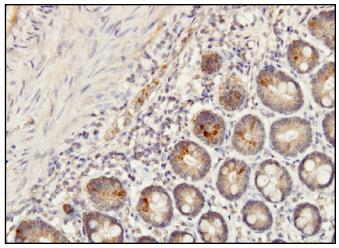
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



IL-1F7 (6A6): sc-517072. Western blot analysis of human recombinant IL-1F7 fusion protein.



IL-1F7 (6A6); sc-517072. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small Intestine tissue showing cytoplasmic staining of glandular cells.

STORAGE

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

PROTOCOLS

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