SANTA CRUZ BIOTECHNOLOGY, INC.

MyD88 (F-19): sc-8197

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The Power to Question

BACKGROUND

Interleukin-1 (IL-1) induced activation of the NFκB pathway is mediated through the IL-1 receptor and the subsequent phosphorylation of IL-1 receptor associated kinase (IRAK). The myeloid differentiation protein MyD88 was originally characterized as a protein upregulated in myeloleukemic cells following IL-6 induced growth arrest and terminal differentiation. MyD88 is now known to function as an adaptor protein for the association of IRAK with the IL-1 receptor. MyD88 is functionally homologous to the adaptor protein Tube in the Toll signalling pathway of *Drosophilia*, and both proteins are members of the Toll/IL-1R superfamily. MyD88 contains a characteristic N-terminal death domain that is essential for NFκB activation and an adjacent toll/IL-1R homology domain (TIR domain). Collectively, these domains enable the protein-protein interactions of MyD88 with IRAK and the IL-1 receptor complex.

REFERENCES

1. Galindo, R.L., et al. 1995. Interaction of the pelle kinase with the membrane-associated protein tube is required for transduction of the dorsoventral signal in *Drosophilia* embryos. Development 121: 2209-2218.
2. Hardiman, G., et al. 1996. Molecular characterization and modular analysis of human MyD88. Oncogene 13: 2467-2475.
3. Muzio, M., et al. 1997. IRAK (Pelle) family member IRAK-2 and MyD88 as proximal mediators of IL-1 signaling. Science 278: 1612-1615.

CHROMOSOMAL LOCATION

Genetic locus: Myd88 (mouse) mapping to 9 F3.

SOURCE

MyD88 (F-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of MyD88 of mouse origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8197 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MyD88 (F-19) is recommended for detection of MyD88 of mouse and rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MyD88 siRNA (m): sc-35987, MyD88 shRNA Plasmid (m): sc-35987-SH, MyD88 shRNA (m) Lentiviral and Particles: sc-35987-V.

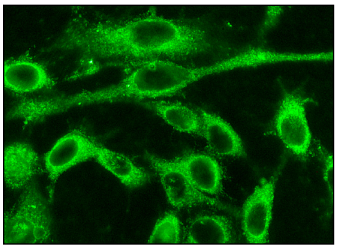
Molecular Weight of MyD88: 33 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802 or mouse uterus extract: sc-364254.

STORAGE

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

DATA



MyD88 (F-19): sc-8197. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Shibata, Y., et al. 2001. GM-CSF regulates alveolar macrophage differentiation and innate immunity in the lung through PU.1. Immunity 15: 557-567.
2. Chandrasek, B., et al. 2005. The pro-atherogenic cytokine interleukin-18 induces CXCL16 expression in rat aortic smooth muscle cells via MyD88, interleukin-1 receptor-associated kinase, tumor necrosis factor receptor-associated factor 6, c-Src, phosphatidylinositol 3-kinase, Akt, c-Jun N-terminal kinase, and activator protein-1 signaling. J. Biol. Chem. 280: 26263-26277.
3. Cho, H.Y., et al. 2005. Role of Toll-like receptor-4 in genetic susceptibility to lung injury induced by residual oil fly ash. Am. J. Physiol. 22: 108-117.
4. Herbeuval, J.P., et al. 2006. Differential expression of IFN-α and TRAIL/DR5 in lymphoid tissue of progressor versus nonprogressor HIV-1-infected patients. Proc. Natl. Acad. Sci. USA 103: 7000-7005.
5. Tang, X., et al. 2006. LPS-induced TNFα factor (LITAF)-deficient mice express reduced LPS-induced cytokine: Evidence for LITAF-dependent LPS signaling pathways. Proc. Natl. Acad. Sci. USA 103: 13777-13782.
6. Powers, K.A., et al. 2006. Oxidative stress generated by hemorrhagic shock recruits toll-like receptor 4 to the plasma membrane in macrophages. J. Exp. Med. 203: 1951-1961.
7. Gelman, A.E., et al. 2006. The adaptor molecule MyD88 activates PI 3-kinase signaling in $CD4^+$ T cells and enables CpG oligodeoxynucleotide-mediated costimulation. Immunity 25: 783-793.
8. Lawlor, E.M., et al. 2010. Optimal CD8 T-cell response against *Encephalitozoon cuniculi* is mediated by Toll-like receptor 4 upregulation by dendritic cells. Infect. Immun. 78: 3097-3102.

RESEARCH USE

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