

CD89 (MIP8a): sc-59138

BACKGROUND

Fc (Ig constant fragment) receptors ensure protection of the host against foreign antigens, such as microorganisms and pathogens, by removing Ig-coated antigen complexes from circulation. Fc receptors are present on lymphoid and myeloid derivatives, where they mediate endocytosis of Ig-antigen complexes, antibody production in B cells through T cell antigen presentation, cytotoxicity and the release of cytokines and reactive oxygen species. CD89, also known as Immunoglobulin α Fc receptor (Fc α RI), is a glycoprotein that is expressed on the surface of neutrophils, monocytes, macrophages and eosinophils and is a potent cytotoxic trigger molecule. CD89 specifically interacts with aggregated IgAs, not IgG. Cytokines can initiate a high-binding state for CD89 through a mechanism that involves the intracellular C-terminus of CD89. Polymorphisms within the gene encoding CD89 may be associated with susceptibility to IgA nephropathy, a form of glomerulonephritis characterized by IgA antibody deposition in the kidney glomerulus.

REFERENCES

- Kremer, E.J., Kalatzis, V., Baker, E., Callen, D.F., Sutherland, G.R. and Maliszewski, C.R. 1992. The gene for the human IgA Fc receptor maps to 19q13.4. *Hum. Genet.* 89: 107-108.
- de Wit, T.P., Morton, H.C., Capel, P.J. and van de Winkel, J.G. 1995. Structure of the gene for the human myeloid IgA Fc receptor (CD89). *J. Immunol.* 155: 1203-1209.
- Tsuge, T., Shimokawa, T., Horikoshi, S., Tomino, Y. and Ra, C. 2001. Polymorphism in promoter region of Fc α receptor gene in patients with IgA nephropathy. *Hum. Genet.* 108: 128-133.
- Herr, A.B., Ballister, E.R. and Bjorkman, P.J. 2003. Insights into IgA-mediated immune responses from the crystal structures of human Fc α RI and its complex with IgA1-Fc. *Nature* 423: 614-620.
- Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 147045. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Gomes, M.M., Wall, S.B., Takahashi, K., Novak, J., Renfrow, M.B. and Herr, A.B. 2008. Analysis of IgA1 N-glycosylation and its contribution to Fc α RI binding. *Biochemistry* 47: 11285-11299.
- Matsui, T., Nunomura, S., Shimokawa, T., Yoshimaru, T. and Ra, C. 2008. Functionality of the IgA Fc receptor (Fc α R, CD89) is down-regulated by extensive engagement of Fc ϵ RI. *Clin. Immunol.* 129: 155-162.

CHROMOSOMAL LOCATION

Genetic locus: FCAR (human) mapping to 19q13.42.

SOURCE

CD89 (MIP8a) is a mouse monoclonal antibody raised against full length CD89 of human origin.

STORAGE

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

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD89 (MIP8a) is available conjugated phycoerythrin (sc-59138 PE, 100 tests in 2 ml) for IF, IHC(P) and FCM.

APPLICATIONS

CD89 (MIP8a) is recommended for detection of CD89 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

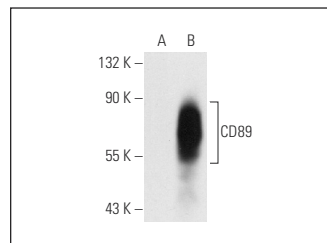
Suitable for use as control antibody for CD89 siRNA (h): sc-42815, CD89 shRNA Plasmid (h): sc-42815-SH and CD89 shRNA (h) Lentiviral Particles: sc-42815-V.

Molecular Weight of CD89 protein core: 32 kDa.

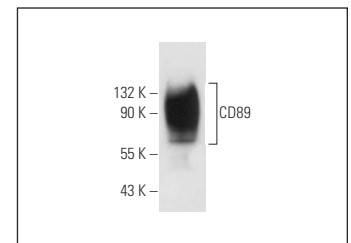
Molecular Weight of CD89 glycoprotein: 50-75 kDa.

Positive Controls: CD89 (h): 293T Lysate: sc-114169, HL-60 whole cell lysate: sc-2209 or K-562 whole cell lysate: sc-2203.

DATA



CD89 (MIP8a): sc-59138. Western blot analysis of CD89 expression in non-transfected: sc-117752 (A) and human CD89 transfected: sc-114169 (B) 293T whole cell lysates.



CD89 (MIP8a): sc-59138. Western blot analysis of CD89 expression in HL-60 whole cell lysate.

RESEARCH USE

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

PROTOCOLS

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