SANTA CRUZ BIOTECHNOLOGY, INC.

# CD89 (A3): sc-19680

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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 $\alpha$ Fc receptor (Fc $\alpha$ 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


1. Kremer, E.J., et al. 1992. The gene for the human IgA Fc receptor maps to 19q13.4. Hum. Genet. 89: 107-108.
2. de Wit, T.P., et al. 1995. Structure of the gene for the human myeloid IgA Fc receptor (CD89). J. Immunol. 155: 1203-1209.
3. Tsuge, T., et al. 2001. Polymorphism in promoter region of Fc$\alpha$ receptor gene in patients with IgA nephropathy. Hum. Genet. 108: 128-133.
4. Herr, A.B., et al. 2003. Insights into IgA-mediated immune responses from the crystal structures of human Fc$\alpha$RI and its complex with IgA1-Fc. Nature 423: 614-620.


## SOURCE

CD89 (A3) is a mouse monoclonal antibody raised against purified Fc $\alpha$ receptors (CD89) isolated from a human monocytic cell line.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD89 (A3) is available conjugated to agarose (sc-19680 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-19680 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-19680 PE), fluorescein (sc-19680 FITC), Alexa Fluor® 488 (sc-19680 AF488), Alexa Fluor® 546 (sc-19680 AF546), Alexa Fluor® 594 (sc-19680 AF594) or Alexa Fluor® 647 (sc-19680 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-19680 AF680) or Alexa Fluor® 790 (sc-19680 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## STORAGE

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

## APPLICATIONS

CD89 (A3) 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 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 flow cytometry (1 µg per 1 x $10^6$ cells).

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.

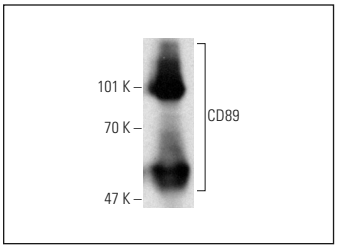
Molecular Weight of CD89 glycoprotein: 50-75 kDa.

Positive Controls: CCRF-CEM cell lysate: sc-2225, Daudi cell lysate: sc-2415 or Hep G2 cell lysate: sc-2227.

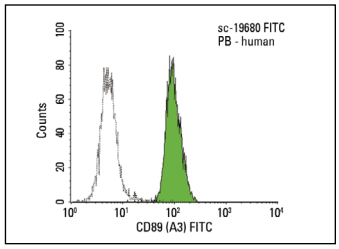
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG$\kappa$ BP-HRP: sc-516102 or m-IgG$\kappa$ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgG$\kappa$ BP-FITC: sc-516140 or m-IgG$\kappa$ 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




CD89 (A3): sc-19680. Western blot analysis of CD89 expression in Daudi whole cell lysate.




CD89 (A3) FITC: sc-19680 FITC. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal mouse $IgG_1$-FITC: sc-2855.

## SELECT PRODUCT CITATIONS


1. Pillay, J., et al. 2010. Functional heterogeneity and differential priming of circulating neutrophils in human experimental endotoxemia. J. Leukoc. Biol. 88: 211-220.
2. Nagashima, H., et al. 2011. Enhanced antibody-dependent cellular phagocytosis by chimeric monoclonal antibodies with tandemly repeated Fc domains. J. Biosci. Bioeng. 111: 391-396.


## RESEARCH USE

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