

CD223 (D-8): sc-514993

BACKGROUND

CD223 (lymphocyte activation gene-3, LAG-3) is a high affinity MHC class II ligand present on the surface of CD4⁺CD8⁺ T cells and NK cells. CD223 shares homology in structure to CD4 molecules, having four similar extracellular Ig-like domains and structural motifs between D1-D3 and D2-D4 domains. CD223 has a glutamic acid-proline (EP) repetitive sequence found in other functionally distinct mammalian, parasitic, and bacterial proteins that may influence a conserved biological function. CD223⁺CD4⁺CD8⁺ T cells can associate with the T cell receptor (TCR) and downregulate TCR signaling *in vitro*. CD223 inhibits CD4-dependent T cell function via its cytoplasmic domain. CD223 Lys-468 within a conserved "KIEELE" motif is essential for interaction with downstream signaling molecules.

REFERENCES

- Demeure, C.E., et al. 2001. T Lymphocytes infiltrating various tumour types express the MHC class II ligand lymphocyte activation gene-3 (LAG-3): role of LAG-3/MHC class II interactions in cell-cell contacts. *Eur. J. Cancer* 37: 1709-1718.
- Andreae, S., et al. 2002. Maturation and activation of dendritic cells induced by lymphocyte activation gene-3 (CD223). *J. Immunol.* 168: 3874-3880.

CHROMOSOMAL LOCATION

Genetic locus: LAG3 (human) mapping to 12p13.31; Lag3 (mouse) mapping to 6 F2.

SOURCE

CD223 (D-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 375-396 within an extracellular domain of CD223 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD223 (D-8) is available conjugated to agarose (sc-514993 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514993 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514993 PE), fluorescein (sc-514993 FITC), Alexa Fluor[®] 488 (sc-514993 AF488), Alexa Fluor[®] 546 (sc-514993 AF546), Alexa Fluor[®] 594 (sc-514993 AF594) or Alexa Fluor[®] 647 (sc-514993 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-514993 AF680) or Alexa Fluor[®] 790 (sc-514993 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514993 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor[®] is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

CD223 (D-8) is recommended for detection of CD223 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 CD223 siRNA (h): sc-42836, CD223 siRNA (m): sc-44548, CD223 shRNA Plasmid (h): sc-42836-SH, CD223 shRNA Plasmid (m): sc-44548-SH, CD223 shRNA (h) Lentiviral Particles: sc-42836-V and CD223 shRNA (m) Lentiviral Particles: sc-44548-V.

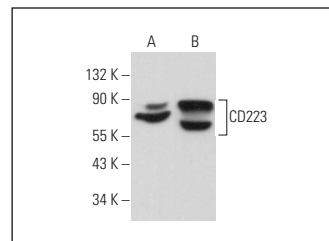
Molecular Weight of CD223: 70 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, human ovary extract: sc-363769 or A2058 whole cell lysate: sc-364178.

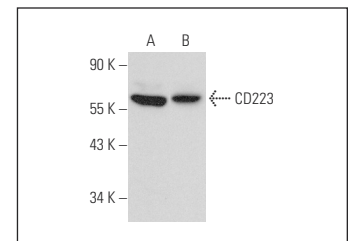
RECOMMENDED SUPPORT REAGENTS

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, 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-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



CD223 (D-8): sc-514993. Western blot analysis of CD223 expression in A2058 whole cell lysate (A) and human ovary tissue extract (B).



CD223 (D-8): sc-514993. Western blot analysis of CD223 expression in A2058 (A) and K-562 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Naggan, L., et al. 2023. Suicide in bipolar disorder patients is associated with hippocampal microglia activation and reduction of lymphocyte-activation gene 3 (LAG-3) microglial checkpoint expression. *Brain Behav. Immun.* 110: 185-194.

RESEARCH USE

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