

CD100 (C-3): sc-390675

BACKGROUND

Semaphorins comprise a family of phylogenetically conserved proteins containing a 500 amino acid region termed the "Sema domain" in the amino-terminus. The semaphorin family is subdivided into eight groups. CD100 (SEMA4D) is a transmembrane protein belonging to group IV of the semaphorin family. CD100 is expressed in both embryonic and adult kidney, heart, lung and neural tissues. Plexin-B1, a receptor expressed abundantly in fetal brain and kidney, binds CD100 with high affinity. CD100 is the only member of the semaphorin family that is expressed in the immune system. CD100 activates T cell proliferation and promotes B cell aggregation. CD100 regulates B cell response by negating an inhibitory signal from CD72 that normally diminishes B cell response. This signal is turned off when CD100 binds to CD72 and induces tyrosine dephosphorylation of CD72, followed by the dissociation of SHP-1 from CD72. The gene encoding human CD100 maps to chromosome 9q22.2.

REFERENCES

1. Bougeret, C., et al. 1992. Increased surface expression of a newly identified 150-kDa dimer early after human T lymphocyte activation. *J. Immunol.* 148: 318-323.
2. Herold, C., et al. 1995. Activation signals are delivered through two distinct epitopes of CD100, a unique 150 kDa human lymphocyte surface structure previously defined by BB18 mAb. *Int. Immunol.* 7: 1-8.

CHROMOSOMAL LOCATION

Genetic locus: SEMA4D (human) mapping to 9q22.2; Sema4d (mouse) mapping to 13 A5.

SOURCE

CD100 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 815-845 of CD100 of human origin.

PRODUCT

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

CD100 (C-3) is available conjugated to agarose (sc-390675 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390675 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390675 PE), fluorescein (sc-390675 FITC), Alexa Fluor® 488 (sc-390675 AF488), Alexa Fluor® 546 (sc-390675 AF546), Alexa Fluor® 594 (sc-390675 AF594) or Alexa Fluor® 647 (sc-390675 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390675 AF680) or Alexa Fluor® 790 (sc-390675 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

CD100 (C-3) is recommended for detection of CD100 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 CD100 siRNA (h): sc-42817, CD100 siRNA (m): sc-42818, CD100 shRNA Plasmid (h): sc-42817-SH, CD100 shRNA Plasmid (m): sc-42818-SH, CD100 shRNA (h) Lentiviral Particles: sc-42817-V and CD100 shRNA (m) Lentiviral Particles: sc-42818-V.

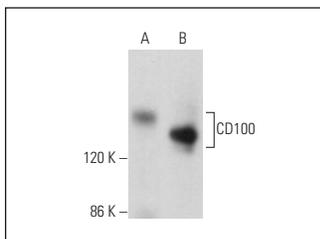
Molecular Weight of CD100: 150 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, MOLT-4 cell lysate: sc-2233 or HL-60 whole cell lysate: sc-2209.

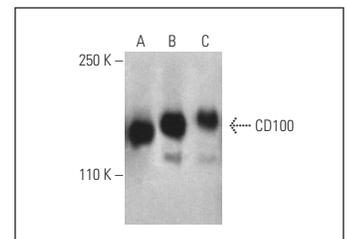
RECOMMENDED SUPPORT REAGENTS

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



CD100 (C-3): sc-390675. Western blot analysis of CD100 expression in HL-60 (A) and MOLT-4 (B) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CD100 (C-3) HRP: sc-390675 HRP. Direct western blot analysis of CD100 expression in Jurkat (A), MOLT-4 (B) and HL-60 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zhou, Y.F., et al. 2018. Sema4D/PlexinB1 inhibition ameliorates blood-brain barrier damage and improves outcome after stroke in rats. *FASEB J.* 32: 2181-2196.
2. Wu, J.H., et al. 2020. Inhibition of Sema4D/PlexinB1 signaling alleviates vascular dysfunction in diabetic retinopathy. *EMBO Mol. Med.* 12: e10154.

STORAGE

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