**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**


**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 IgG2a in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**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-42817-5H, CD100 shRNA Plasmid (m): sc-42818-5H, 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: CD100 (h): 293T Lysate: sc-116252 or Jurkat whole cell lysate: sc-2204.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**DATA**

**STORAGE**

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

**RESEARCH USE**

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

**PROTOCOLS**

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