

CD1E (CC118): sc-101833

BACKGROUND

The human CD1 family consists of five chromosome 1-localized genes which encode proteins that are involved in mediating the presentation of lipid antigens of microbial or self origin on the surface of immune cells. CD1E, also known as R2 or CD1A, is a 322 amino acid single-pass type I membrane protein that localizes to the lumen of the endoplasmic reticulum, as well as to the Golgi apparatus and contains one Ig-like domain. Expressed in a variety of tissues and on cortical thymocytes, dendritic cells and Langerhans cells, CD1E exists as a heterodimer with β -2-microglobulin and is necessary for the presentation of glycolipid antigens on the cell surface. CD1E is subject to posttranslational mono-ubiquitination and may also be proteolytically cleaved in endosomes to yield a soluble protein. CD1E is present on the surface of some T cell leukemias, suggesting a possible role in tumorigenesis.

REFERENCES

- Martin, L.H., Calabi, F. and Milstein, C. 1986. Isolation of CD1 genes: a family of major histocompatibility complex-related differentiation antigens. *Proc. Natl. Acad. Sci. USA* 83: 9154-9158.
- Yu, C.Y. and Milstein, C. 1989. A physical map linking the five CD1 human thymocyte differentiation antigen genes. *EMBO J.* 8: 3727-3732.
- Calabi, F., Jarvis, J.M., Martin, L. and Milstein, C. 1989. Two classes of CD1 genes. *Eur. J. Immunol.* 19: 285-292.
- Han, M., Hannick, L.I., DiBrino, M. and Robinson, M.A. 1999. Polymorphism of human CD1 genes. *Tissue Antigens* 54: 122-127.
- Angenieux, C., Salamero, J., Fricker, D., Cazenave, J.P., Goud, B., Hanau, D. and de La Salle, H. 2000. Characterization of CD1E, a third type of CD1 molecule expressed in dendritic cells. *J. Biol. Chem.* 275: 37757-37764.
- Mirones, I., Oteo, M., Parra-Cuadrado, J.F. and Martínez-Naves, E. 2000. Identification of two novel human CD1E alleles. *Tissue Antigens* 56: 159-161.
- Angenieux, C., Salamero, J., Fricker, D., Wurtz, J.M., Maitre, B., Cazenave, J.P., Hanau, D. and de la Salle, H. 2003. Common characteristics of the human and rhesus macaque CD1E molecules: conservation of biochemical and biological properties during primate evolution. *Immunogenetics* 54: 842-849.
- Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 188411. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Maitre, B., Angenieux, C., Salamero, J., Hanau, D., Fricker, D., Signorino, F., Proamer, F., Cazenave, J.P., Goud, B., Tourne, S. and de la Salle, H. 2008. Control of the intracellular pathway of CD1E. *Traffic* 9: 431-445.

SOURCE

CD1E (CC118) is a mouse monoclonal antibody raised against thymocytes of bovine 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 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CD1E (CC118) is available conjugated to agarose (sc-101833 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101833 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101833 PE), fluorescein (sc-101833 FITC), Alexa Fluor® 488 (sc-101833 AF488), Alexa Fluor® 594 (sc-101833 AF594) or Alexa Fluor® 647 (sc-101833 AF647), 200 μ g/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-101833 AF680) or Alexa Fluor® 790 (sc-101833 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

APPLICATIONS

CD1E (CC118) is recommended for detection of CD1E of bovine, ovine and caprine 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)] and flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of CD1E: 36 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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).

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.