SANTA CRUZ BIOTECHNOLOGY, INC.

CD45RO (UCH-L1): sc-1183

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD45R, also designated CD45 and PTPRC, has been identified as a transmembrane glycoprotein, broadly expressed among hematopoietic cells. Multiple isoforms of CD45R are distributed throughout the immune system according to cell type. These isoforms arise because of alternative splicing of exons 4, 5, and 6. The corresponding protein domains are characterized by the binding of monoclonal antibodies specific for CD45RA (exon 4), CD45RB (exon 5), CD45RC (exon 6) and CD45RO (exons 4 to 6 spliced out). The variation in these isoforms is localized to the extracellular domain of CD45R, while the intracellular domain is conserved. CD45R functions as a phosphotyrosine phosphatase, a vital component for efficient tyrosine phosphorylation induction by the TCR/CD3 complex. The tyrosine phosphatase activity of CD45R is contained within the conserved intracellular domain. Src and Syk family protein tyrosine kinases are utilized by the TCR/CD3 complex to initiate signaling cascades. Several members of these two families, including Lck, Fyn and ZAP-70, have been implicated as physiological substrates of CD45R.

REFERENCES

1. Woollett, G.R., et al. 1985. Molecular and antigenic heterogeneity of the rat leukocyte-common antigen from thymocytes and T and B lymphocytes. Eur. J. Immunol. 15: 168-173.
2. West, K.P., et al. 1986. The demonstration of B cell, T cell and myeloid antigens in paraffin sections. J. Pathol. 150: 89-101.

CHROMOSOMAL LOCATION

Genetic locus: PTPRC (human) mapping to 1q31.3; Ptprc (mouse) mapping to 1 E4.

SOURCE

CD45RO (UCH-L1) is a mouse monoclonal antibody raised against cultured human T cell line-CA-1.

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.

CD45RO (UCH-L1) is available conjugated to agarose (sc-1183 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-1183 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1183 PE), fluorescein (sc-1183 FITC), Alexa Fluor® 488 (sc-1183 AF488), Alexa Fluor® 546 (sc-1183 AF546), Alexa Fluor® 594 (sc-1183 AF594) or Alexa Fluor® 647 (sc-1183 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1183 AF680) or Alexa Fluor® 790 (sc-1183 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, CD45RO (UCH-L1) is available conjugated to APC (sc-1183 APC), 100 tests in 2 ml, for IF, IHC(P) and FCM.

STORAGE

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

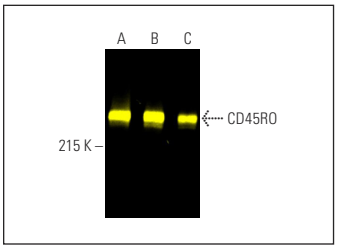
APPLICATIONS

CD45RO (UCH-L1) is recommended for detection of CD45RO (180-185 kDa) of mouse, rat and 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 cells).

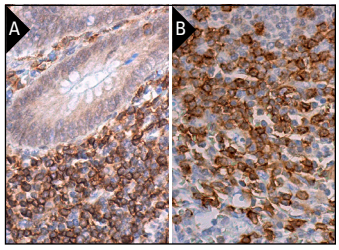
Suitable for use as control antibody for CD45 siRNA (h): sc-29251, CD45 siRNA (m): sc-35001, CD45 shRNA Plasmid (h): sc-29251-SH, CD45 shRNA Plasmid (m): sc-35001-SH, CD45 shRNA (h) Lentiviral Particles: sc-29251-V and CD45 shRNA (m) Lentiviral Particles: sc-35001-V.

Molecular Weight of CD45RO: 180-220 kDa.

DATA



CD45RO (UCH-L1) Alexa Fluor® 488: sc-1183 AF488. Direct fluorescent western blot analysis of CD45RO expression in SUP-T1 (**A**), MOLT-4 (**B**) and Jurkat (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



CD45RO (UCH-L1): sc-1183. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane and cytoplasmic staining of lymphoid cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing membrane and cytoplasmic staining of cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Cao, W., et al. 2008. Expression of LMP-1 and cyclin D1 protein is correlated with an unfavorable prognosis in nasal type NK/T cell lymphoma. Mol. Med. Rep. 1: 363-368.
2. Yu, X., et al. 2014. Identification and IVC of spermatogonial stem cells in prepubertal buffaloes. Theriogenology 81: 1312-1322.
3. Yazawa, E.M., et al. 2015. Melanoma cell galectin-1 ligands functionally correlate with malignant potential. J. Invest. Dermatol. 135: 1849-1862.
4. Frezzato, F., et al. 2016. Profiling B cell chronic lymphocytic leukemia by reverse phase protein array: focus on apoptotic proteins. J. Leukoc. Biol. 100: 1061-1070.
5. Miyazaki, T., et al. 2017. Assessment of PD-1 positive cells on initial and secondary resected tumor specimens of newly diagnosed glioblastoma and its implications on patient outcome. J. Neurooncol. 133: 277-285.
6. Ma, B., et al. 2021. High expression of HVEM is associated with improved prognosis in intrahepatic cholangiocarcinoma. Oncol. Lett. 21: 69.

RESEARCH USE

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