SANTA CRUZ BIOTECHNOLOGY, INC.

CD81 (B-11): sc-166029

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CD81, also called TAPA-1, is a type III transmembrane protein that is broadly expressed on cells of hematopoietic, neuroectodermal and mesenchymal origin. CD81 is believed to be involved in both cell growth and signal transduction. It can be present as a multimolecular complex in association with CD37 and/or CD53, or on the surface of B cells in association with CD19, CD21 and/or MHC class II antigens.

CHROMOSOMAL LOCATION

Genetic locus: CD81 (human) mapping to 11p15.5; Cd81 (mouse) mapping to 7 F5.

SOURCE

CD81 (B-11) is a mouse monoclonal antibody raised against amino acids 90-210 of CD81 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.

CD81 (B-11) is available conjugated to agarose (sc-166029 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166029 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166029 PE), fluorescein (sc-166029 FITC), Alexa Fluor® 488 (sc-166029 AF488), Alexa Fluor® 546 (sc-166029 AF546), Alexa Fluor® 594 (sc-166029 AF594) or Alexa Fluor® 647 (sc-166029 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166029 AF680) or Alexa Fluor® 790 (sc-166029 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

CD81 (B-11) is recommended for detection of CD81 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), immunohistochemistry (including paraffin-embedded sections) (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 CD81 siRNA (h): sc-35030, CD81 siRNA (m): sc-37251, CD81 shRNA Plasmid (h): sc-35030-SH, CD81 shRNA Plasmid (m): sc-37251-SH, CD81 shRNA (h) Lentiviral Particles: sc-35030-V and CD81 shRNA (m) Lentiviral Particles: sc-37251-V.

Molecular Weight of CD81: 22-26 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, Ramos cell lysate: sc-2216 or MM-142 cell lysate: sc-2246.

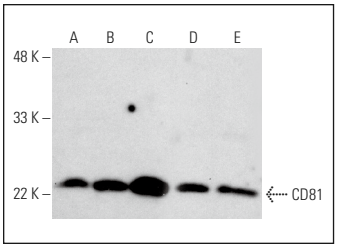
STORAGE

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

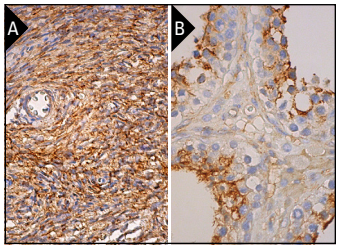
RESEARCH USE

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

DATA



CD81 (B-11) HRP: sc-166029 HRP. Direct western blot analysis of CD81 expression in Jurkat (**A**), Ramos (**B**), U-698-M (**C**), MOLT-4 (**D**) and MM-142 (**E**) whole cell lysates.



CD81 (B-11): sc-166029. Immunoperoxidase staining of formalin fixed, paraffin-embedded human ovary tissue showing cytoplasmic and membrane staining of ovarian stroma cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts (**B**).

SELECT PRODUCT CITATIONS

1. Diao, J., et al. 2012. Hepatitis C virus induces epidermal growth factor receptor activation via CD81 binding for viral internalization and entry. J. Virol. 86: 10935-10949.
2. Kowal, J., et al. 2016. Proteomic comparison defines novel markers to characterize heterogeneous populations of extracellular vesicle subtypes. Proc. Natl. Acad. Sci. USA 113: E968-E977.
3. Mrowczynski, O.D., et al. 2017. HFE genotype affects exosome phenotype in cancer. Biochim. Biophys. Acta 1861: 1921-1928.
4. Song, M., et al. 2018. Adipocyte-derived exosomes carrying sonic hedgehog mediate M1 macrophage polarization-induced insulin resistance via Ptch and PI3K pathways. Cell. Physiol. Biochem. 48: 1416-1432.
5. Kim, H., et al. 2019. Calcium chloride enhances the delivery of exosomes. PLoS ONE 14: e0220036.
6. Luo, W., et al 2020. Spatial and temporal tracking of cardiac exosomes in mouse using a nano-luciferase-CD63 fusion protein. Commun. Biol. 3: 114.
7. Kim, J., et al. 2021. Evaluation of micro-RNA in extracellular vesicles from blood of patients with prostate cancer. PLoS ONE 16: e0262017.
8. Yang, J., et al. 2022. Extracellular vesicles-encapsulated microRNA-29b-3p from bone marrow-derived mesenchymal stem cells promotes fracture healing via modulation of the PTEN/PI3K/Akt axis. Exp. Cell Res. 412: 113026.
9. Hirata, T., et al. 2023. N-acetylglucosaminyltransferase-V (GnT-V)-enriched small extracellular vesicles mediate N-glycan remodeling in recipient cells. iScience 26: 105747.

PROTOCOLS

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