RT1-D (OX17): sc-53075

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

RT1-D is a major histocompatibility (MHC) class II (Ia) antigen. MHC class II molecules are important factors in immune responses since they function to process and present antigens to CD4+ helper T-cells. The amino-terminal region of the RT1-D stimulates T cell proliferation. Class I molecules play a central role in the immune system by presenting peptides derived from the endoplasmic reticulum (ER) lumen. HLA-B and C can form heterodimers consisting of a membrane anchored heavy chain and a light chain. Polymorphisms yield hundreds of HLA-B and C alleles.

REFERENCES

1. Fukumoto, T., et al. 1982. Mouse monoclonal antibodies against rat major histocompatibility antigens. Two Ia antigens and expression of Ia and class I antigens in rat thymus. Eur. J. Immunol. 12: 237-243.

2. Kropshofer, H., et al. 1998. A role for HLA-DO as a co-chaperone of HLA-DM in peptide loading of MHC class II molecules. EMBO J. 17: 2971-2981.

3. Siegmund, T., et al. 1999. HLA-DMA and HLA-DMB alleles in German patients with type 1 diabetes mellitus. Tissue Antigens 54: 291-294.

4. Arndt, S.O., et al. 2000. Functional HLA-DM on the surface of B cells and immature dendritic cells. EMBO J. 19: 1241-1251.

5. Brunet, A., et al. 2000. Functional characterization of a lysosomal sorting motif in the cytoplasmic tail of HLA-DOβ. J. Biol. Chem. 275: 37062-37071.

6. Doebele, C.R., et al. 2000. Determination of the HLA-DM interaction site on HLA-DR molecules. Immunity 13: 517-527.

7. Louis-Plence, P., et al. 2000. The downregulation of HLA-DM gene expression in rheumatoid arthritis is not related to their promoter polymorphism. J. Immunol. 16: 4861-4869.

8. Toussirot, E., et al. 2000. The association of HLA-DM genes with rheumatoid arthritis in Eastern France. Hum. Immunol. 61: 303-308.

SOURCE

RT1-D (OX17) is a mouse monoclonal antibody raised against MHC Class II RT1-D of rat origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RT1-D (OX17) is available conjugated to agarose (sc-53075 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53075 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53075 PE), fluorescein (sc-53075 FITC), Alexa Fluor® 488 (sc-53075 AF488), Alexa Fluor® 546 (sc-53075 AF546), Alexa Fluor® 594 (sc-53075 AF594) or Alexa Fluor® 647 (sc-53075 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53075 AF680) or Alexa Fluor® 790 (sc-53075 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

RT1-D (OX17) is recommended for detection of RT1-D of mouse and rat 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) and flow cytometry (1 µg per 1 x 10^6 cells).

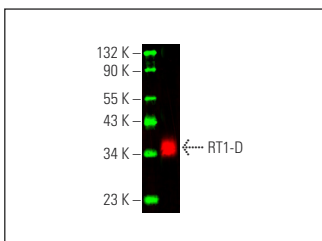Molecular Weight of RT1-D: 30-34 kDa.

Positive Controls: rat PBL whole cell lysate.

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

RT1-D (OX17) Alexa Fluor® 790: sc-53075 AF790. Direct near-infrared western blot analysis of RT1-D expression in rat PBL whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 680: sc-516730.
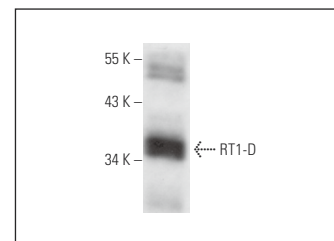
RT1-D (OX17): sc-53075. Western blot analysis of RT1-D expression in rat PBL whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhang, Y., et al. 2015. Dysregulation of low-density lipoprotein receptor contributes to podocyte injuries in diabetic nephropathy. Am. J. Physiol. Endocrinol. Metab. 308: E1140-E1148.

2. Merlini, A., et al. 2022. Distinct roles of the meningeal layers in CNS autoimmunity. Nat. Neurosci. 25: 887-899.

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.