

DP2 (BM16): sc-21798

BACKGROUND

The human chemoattractant receptor-homologous molecule (CRTH2, GPR44, G protein-coupled receptor 44) maps to chromosome 11q12.2 and encodes a 472 amino acid G protein-coupled leukocyte chemoattractant receptor. Chemoattractant receptors present on Th2 cells respond to parasites and play a central role in allergic inflammation and are absent on Type 1 T helper (Th1) cells, which address intracellular bacteria and many viruses. CRTH2 contains seven putative transmembrane domains and mediates signals to the interior of the cell upon exposure to its cognate ligand prostaglandin (PG)D₂, which is able to attract basophils, eosinophils, type 2 Th (Th2) cells and type 2 cytotoxic (Tc2) CD8⁺ T lymphocytes. CRTH2 expression on active Th2 cells influences supportive roles in Th2-type immune reactions. 3.5 kb CRTH2 transcripts are present in thalamus, frontal cortex, pons, hippocampus, hypothalamus and caudate, while 3.4 kb transcripts are present in fetal liver, leukocytes and thymus.

REFERENCES

1. Marchese, A., et al. 1999. Discovery of three novel orphan G protein-coupled receptors. *Genomics* 56: 12-21.
2. Cosmi, L., et al. 2000. CRTH2 is the most reliable marker for the detection of circulating human type 2 Th and type 2 T cytotoxic cells in health and disease. *Eur. J. Immunol.* 30: 2972-2979.
3. Cosmi, L., et al. 2001. Chemoattractant receptors expressed on type 2 T cells and their role in disease. *Int. Arch. Allergy Immunol.* 125: 273-279.
4. Cosmi, L., et al. 2001. CRTH2: marker for the detection of human Th2 and Tc2 cells. *Adv. Exp. Med. Biol.* 495: 25-29.
5. Annunziato, F., et al. 2001. Reversal of human allergen-specific CRTH2⁺ Th2 cells by IL-12 or the PS-DSP30 oligodeoxynucleotide. *J. Allergy Clin. Immunol.* 108: 815-821.
6. Michimata, T., et al. 2002. Accumulation of CRTH2-positive T-helper 2 and T cytotoxic 2 cells at implantation sites of human decidua in a prostaglandin D₂-mediated manner. *Mol. Hum. Reprod.* 8: 181-187.
7. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604837. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
8. LocusLink Report (LocusID: 11251). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: PTGDR2 (human) mapping to 11q12.2.

SOURCE

DP2 (BM16) is a rat monoclonal antibody raised against human DP2-transfected mammalian cells.

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 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DP2 (BM16) is available conjugated to either phycoerythrin (sc-21798 PE) or fluorescein (sc-21798 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

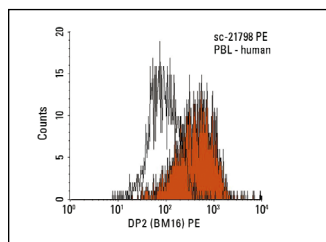
DP2 (BM16) is recommended for detection of DP2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for DP2 siRNA (h): sc-39838, DP2 shRNA Plasmid (h): sc-39838-SH and DP2 shRNA (h) Lentiviral Particles: sc-39838-V.

Molecular Weight of DP2: 35-40 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224.

DATA



DP2 (BM16) PE: sc-21798 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG_{2a}-PE: sc-2872.

SELECT PRODUCT CITATIONS

1. Schroder, R., et al. 2009. The C-terminal tail of CRTH2 is a key molecular determinant that constrains G_{α_i} and downstream signaling cascade activation. *J. Biol. Chem.* 284: 1324-1336.
2. Sykes, L., et al. 2012. Chemoattractant receptor homologous to the T helper 2 cell (CRTH2) is not expressed in human amniocytes and myocytes. *PLoS ONE* 7: e50734.
3. Rittchen, S., et al. 2020. Prostaglandin D₂ strengthens human endothelial barrier by activation of E-type receptor 4. *Biochem. Pharmacol.* E-published.

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.