



DP2 (BM16): sc-21798

BACKGROUND

DP2 prostaglandin D2 receptor 2, also known as, CRTH2 (chemoattractant receptor-homologous molecule expressed on Th2 cells), is a G protein-coupled receptor that plays a crucial role in mediating the effects of prostaglandin D2 (PGD2) in various physiological and pathological processes. DP2 is predominantly expressed on certain types of white blood cells, including Th2 cells, eosinophils, and basophils, and is involved in the regulation of allergic and inflammatory responses. Activation of DP2 by PGD2 leads to a cascade of signaling events that promote the chemotaxis of Th2 cells, thereby facilitating the development of Th2-type immune responses characterized by the production of cytokines such as IL-4, IL-5, and IL-13. This receptor is also involved in the pathogenesis of diseases such as asthma, allergic rhinitis, and atopic dermatitis, making it a target for therapeutic intervention in allergic and inflammatory conditions. The role of DP2 in mediating the effects of PGD2 underscores its significance in immune regulation and inflammation, highlighting its potential as a pharmacological target for treating related disorders.

REFERENCES

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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

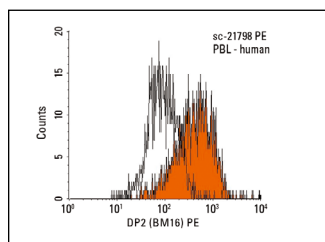
DP2 (BM16) is recommended for detection of DP2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

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.* 182: 114277.

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.