

DP2 (C-5): sc-271898

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; they 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.

CHROMOSOMAL LOCATION

Genetic locus: PTGDR2 (human) mapping to 11q12.2; Ptgd2 (mouse) mapping to 19 A.

SOURCE

DP2 (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-39 within an extracellular domain of DP2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DP2 (C-5) is available conjugated to agarose (sc-271898 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271898 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271898 PE), fluorescein (sc-271898 FITC), Alexa Fluor® 488 (sc-271898 AF488), Alexa Fluor® 546 (sc-271898 AF546), Alexa Fluor® 594 (sc-271898 AF594) or Alexa Fluor® 647 (sc-271898 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271898 AF680) or Alexa Fluor® 790 (sc-271898 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271898 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

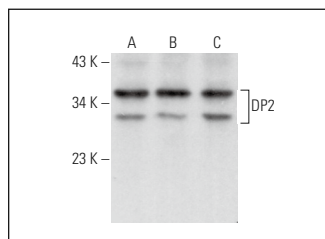
DP2 (C-5) is recommended for detection of DP2 of human origin, CRTH2 of mouse origin and the corresponding rat homolog by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting 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 DP2 siRNA (h): sc-39838, CRTH2 siRNA (m): sc-77327, DP2 shRNA Plasmid (h): sc-39838-SH, CRTH2 shRNA Plasmid (m): sc-77327-SH, DP2 shRNA (h) Lentiviral Particles: sc-39838-V and CRTH2 shRNA (m) Lentiviral Particles: sc-77327-V.

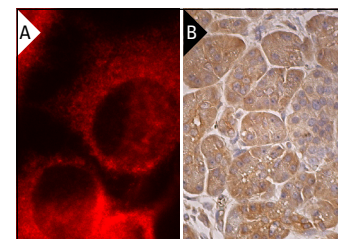
Molecular Weight of DP2: 35-40 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or MEG-01 cell lysate: sc-2283.

DATA



DP2 (C-5): sc-271898. Western blot analysis of DP2 expression in Jurkat (A), MEG-01 (B) and K-562 (C) whole cell lysates.



DP2 (C-5): sc-271898. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans and glandular cells (B).

SELECT PRODUCT CITATIONS

1. Fukuoka, T., et al. 2014. The role of type D prostanoid receptors and PPAR γ in gastric cancer progression. *Anticancer Res.* 34: 2771-2778.
2. Diao, B., et al. 2021. Human kidney is a target for novel severe acute respiratory syndrome coronavirus 2 infection. *Nat. Commun.* 12: 2506.
3. Dash, P., et al. 2022. High PGD₂ receptor 2 levels are associated with poor prognosis in colorectal cancer patients and induce VEGF expression in colon cancer cells and migration in a zebrafish xenograft model. *Br. J. Cancer* 126: 586-597.
4. Song, Y., et al. 2024. Astrocyte-derived CHI3L1 signaling impairs neurogenesis and cognition in the demyelinated hippocampus. *Cell Rep.* 43: 114226.

STORAGE

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