SANTA CRUZ BIOTECHNOLOGY, INC.

EDG-5 (E-12): sc-365963

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The EDG (endothelial differentiation gene) family of G protein-coupled receptors consists of eight family members that bind lysophospholipid (LPL) mediators, including sphingosine-1-phosphate (SPP) and lysophosphatidic acid (LPA). EDG-1, EDG-3, EDG-5 (also designated H218 and AGR16) and EDG-8 bind SPP with high affinity. EDG-6 is a low affinity receptor for SPP. LPA preferentially binds to EDG-2, EDG-4 and EDG-7. The EDG receptors couple to multiple G proteins to signal through Ras, MAP kinase, Rho, Phospholipase C or other tyrosine kinases, which lead to cell survival, growth, migration and differentiation. EDG-1 signals through G_i proteins to activate Akt and is expressed in glioma cells. EDG-2 is expressed in brain, especially in white matter tract regions, while EDG-3 is expressed in cardiovascular tissue and in cerebellum. EDG-4 is highly expressed on leukocytes and brain, and EDG-5 has wide tissue distribution, including cardiovascular tissue and brain. Expressed in lymphoid and hematopoietic tissues and in lung, EDG-6 signals through $G_{i/o}$ proteins, which activate growth related pathways.

REFERENCES

1. Goetzl, E.J., et al. 1999. A subfamily of G protein-coupled cellular receptors for lysophospholipids and lysosphingolipids. Adv. Exp. Med. Biol. 469: 259-264.
2. Van Brocklyn, J.R., et al. 2000. Sphingosine-1-phosphate is a ligand for the G protein-coupled receptor EDG-6. Blood 95: 2624-2629.
3. Pyne, S., et al. 2000. Sphingosine 1-phosphate signalling in mammalian cells. Biochem. J. 349: 385-402.
4. Sato, K., et al. 2000. Differential roles of EDG-1 and EDG-5, sphingosine 1-phosphate receptors, in the signaling pathways in C6 glioma cells. Brain Res. Mol. Brain Res. 85: 151-160.

CHROMOSOMAL LOCATION

Genetic locus: S1PR2 (human) mapping to 19p13.2; S1pr2 (mouse) mapping to 9 A3.

SOURCE

EDG-5 (E-12) is a mouse monoclonal antibody raised against amino acids 284-347 of EDG-5 of human 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.

EDG-5 (E-12) is available conjugated to agarose (sc-365963 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365963 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365963 PE), fluorescein (sc-365963 FITC), Alexa Fluor® 488 (sc-365963 AF488), Alexa Fluor® 546 (sc-365963 AF546), Alexa Fluor® 594 (sc-365963 AF594) or Alexa Fluor® 647 (sc-365963 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365963 AF680) or Alexa Fluor® 790 (sc-365963 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

EDG-5 (E-12) is recommended for detection of EDG-5 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

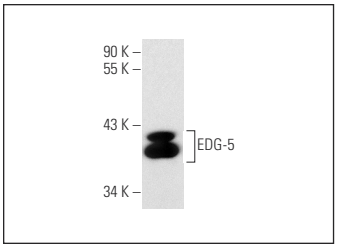
Suitable for use as control antibody for EDG-5 siRNA (h): sc-39928, EDG-5 siRNA (m): sc-39929, EDG-5 shRNA Plasmid (h): sc-39928-SH, EDG-5 shRNA Plasmid (m): sc-39929-SH, EDG-5 shRNA (h) Lentiviral Particles: sc-39928-V and EDG-5 shRNA (m) Lentiviral Particles: sc-39929-V.

Molecular Weight (predicted) of EDG-5: 39 kDa.

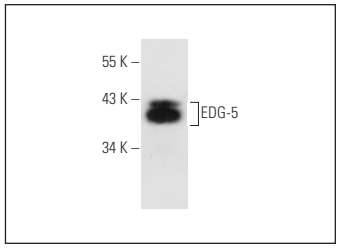
Molecular Weight (observed) of EDG-5: 39/48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, NIH/3T3 whole cell lysate: sc-2210 or IMR-32 cell lysate: sc-2409.

DATA



EDG-5 (E-12): sc-365963. Western blot analysis of EDG-5 expression in NIH/3T3 whole cell lysate.



EDG-5 (E-12): sc-365963. Western blot analysis of EDG-5 expression in IMR-32 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Cao, C., et al. 2019. S1PR2 antagonist alleviates oxidative stress-enhanced brain endothelial permeability by attenuating p38 and Erk 1/2-dependent $cPLA_2$ phosphorylation. Cell. Signal. 53: 151-161.
2. Neganova, I., et al. 2019. EDG-5 plays an important role in induction and maintenance of pluripotency. Stem Cells 37: 318-331.
3. Chen, Q., et al. 2020. Angiocrine sphingosine-1-phosphate activation of S1PR2-YAP signaling axis in alveolar type II cells is essential for lung repair. Cell Rep. 31: 107828.
4. Chen, J., et al. 2022. Sphingosine kinase 1 deficiency in smooth muscle cells protects against hypoxia-mediated pulmonary hypertension via YAP1 signaling. Int. J. Mol. Sci. 23: 14516.

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.