

# EDG-1 (A-6): sc-48356

## 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<sub>i</sub> 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. EDG-6, which is expressed in lymphoid and hematopoietic tissues and in lung, signals through G<sub>i/o</sub> proteins, which activate growth related pathways.

## CHROMOSOMAL LOCATION

Genetic locus: S1PR1 (human) mapping to 1p21.2.

## SOURCE

EDG-1 (A-6) is a mouse monoclonal antibody raised against amino acids 322-381 of EDG-1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>3</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EDG-1 (A-6) is available conjugated to agarose (sc-48356 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-48356 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-48356 PE), fluorescein (sc-48356 FITC) or Alexa Fluor® 488 (sc-48356 AF488) or Alexa Fluor® 647 (sc-48356 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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## APPLICATIONS

EDG-1 (A-6) is recommended for detection of EDG-1 of 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), 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 EDG-1 siRNA (h): sc-37086, EDG-1 shRNA Plasmid (h): sc-37086-SH and EDG-1 shRNA (h) Lentiviral Particles: sc-37086-V.

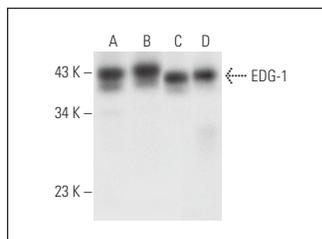
Molecular Weight of EDG-1: 38 kDa.

Positive Controls: human cerebellum extract: sc-516706, human cerebral cortex extract: sc-516707 or human hypothalamus extract: sc-516709.

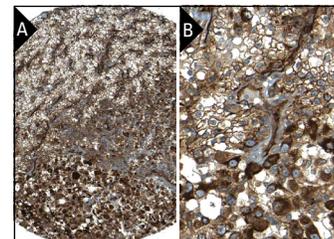
## STORAGE

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

## DATA



EDG-1 (A-6): sc-48356. Western blot analysis of EDG-1 expression in human hippocampus (A), human cerebral cortex (B), human hypothalamus (C) and human cerebellum (D) tissue extracts.



EDG-1 (A-6): sc-48356. Immunoperoxidase staining of formalin fixed, paraffin-embedded human renal cancer tissue showing membrane and cytoplasmic staining of tumor cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Shannon, L.A., et al. 2012. CCR7/CCL19 controls expression of EDG-1 in T cells. *J. Biol. Chem.* 287: 11656-11664.
- Quint, K., et al. 2014. The role of sphingosine kinase isoforms and receptors S1P1, S1P2, S1P3, and S1P5 in primary, secondary, and recurrent glioblastomas. *Tumour Biol.* 35: 8979-8989.
- Lin, C.C., et al. 2015. Sphingosine-1-phosphate mediates ICAM-1-dependent monocyte adhesion through p38 MAPK and p42/p44 MAPK-dependent Akt activation. *PLoS ONE* 10: e0118473.
- Sun, X.J., et al. 2017. Sphingosine-1-phosphate and its receptors in anti-neutrophil cytoplasmic antibody-associated vasculitis. *Nephrol. Dial. Transplant.* 32: 1313-1322.
- Josipovic, I., et al. 2018. Long noncoding RNA LIPSR1 is required for S1P signaling and endothelial cell function. *J. Mol. Cell. Cardiol.* 116: 57-68.
- Balaji Ragunathrao, V.A., et al. 2019. Sphingosine-1-phosphate receptor 1 activity promotes tumor growth by amplifying VEGF-VEGFR2 angiogenic signaling. *Cell Rep.* 29: 3472-3487.e4.
- Yang, C.C., et al. 2020. Sphingosine 1-phosphate induces cyclooxygenase-2/prostaglandin E<sub>2</sub> expression via PKC $\alpha$ -dependent mitogen-activated protein kinases and NF $\kappa$ B cascade in human cardiac fibroblasts. *Front. Pharmacol.* 11: 569802.
- Song, H., et al. 2021. Sphingosine kinase 2 is essential for remyelination following cuprizone intoxication. *Glia* 69: 2863-2881.
- Zhu, Z., et al. 2023. The S1P receptor 1 antagonist Ponesimod reduces TLR4-induced neuroinflammation and increases A $\beta$  clearance in 5XFAD mice. *EBioMedicine* 94: 104713.

## RESEARCH USE

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