PRODUCT INFORMATION

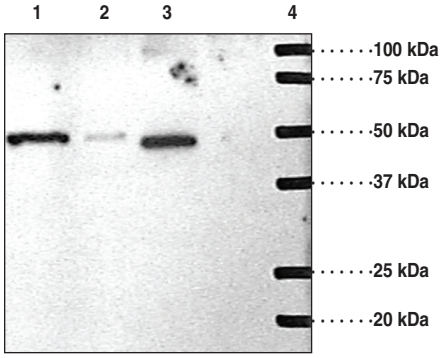
$S1P_1$ Polyclonal Antibody

Item No. 10005228

Overview and Properties

Contents:	This vial contains 500 µl of peptide affinity-purified polyclonal antibody.
Synonyms:	EDG-1, S1PR1, Sphingosine-1-phosphate Receptor 1
Immunogen:	Peptide from an internal cytoplasmic region of human $S1P_1$
Species Reactivity:	(+) Human, mouse, porcine, and rat $S1P_1$
Uniprot No.:	P21453
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	As supplied, 3 years from the QC date provided on the Certificate of Analysis, when stored properly
Storage Buffer:	TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host:	Rabbit
Applications:	Immunofluorescene (IF), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for IF, IHC, and WB is 1:200. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



Lane 1: Mouse brain homogenate (30 mg)
Lane 2: Rat brain supernatant (60 mg)
Lane 3: Human liver pellet (60 mg)
Lane 4: Precision Plus Protein Standard

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Description

Sphingosine-1-phosphate (S1P) exerts its activity by binding to five distinct G-protein-coupled receptors, $S1P_1$/EDG-1, $S1P_2$/EDG-5, $S1P_3$/EDG-3, $S1P_4$/EDG-6, and $S1P_5$/EDG-8.[1,2] $S1P_1$ primarily couples with pertussis toxin-sensitive $G_{i/o}$ proteins to mediate S1P-induced cell proliferation, survival, migration, cytoskeletal organization, and morphogenesis.[1-3] Expression of $S1P_1$ is abundant in embryological vasculature and is ubiquitously expressed in adult cells suggesting diverse physiological functions of this receptor.[2] The human and mouse $S1P_1$ receptors have 382 amino acids with an estimated molecular weight of 43 kDa. Glycosylation at the N-terminal extracellular domain may cause the protein to migrate at a higher position in SDS-PAGE.[4] Cayman's $S1P_1$ Polyclonal Antibody detects the receptor at 47 kDa by WB analysis. The antibody can also be used for IF and IHC to study expression patterns of this protein.

References

1. Takuwa, Y., Takuwa, N., and Sugimoto, N. The Edg family G protein-coupled receptors for lysophospholipids: Their signaling properties and biological activities. *J. Biochem.* **131**, 767-771 (2002).
2. Ishii, I., Fuckushima, N., Ye, X., *et al.* Lysophospholipid receptors: Signaling and biology. *Annu. Rev. Biochem.* **73**, 321-354 (2004).
3. Kluk, M.J. and Hla, T. Signaling of sphingosine-1-phosphate *via* the S1P/EDG-family of G-protein-coupled receptors. *Biochim. Biophys. Acta* **1582**, 72-80 (2002).
4. Kohno, T., Wada, A., and Igarashi, Y. N-glycans of sphingosine 1-phosphate receptor Edg-1 regulate ligand-induced receptor internalization. *FASEB J.* **16**, 983-992 (2002).

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