

# PSD4 (P-13): sc-161174

## BACKGROUND

The ADP-ribosylation factor (ARF) protein family consists of structurally and functionally conserved members of the Ras superfamily of regulatory GTP-binding proteins. ARFs influence vesicle trafficking and signal transduction in eukaryotic cells. ARF6 mediates a variety of neuronal functions through its regulation of Actin cytoskeleton reorganization and membrane traffic. Activation of ARF6 is strictly regulated by guanine nucleotide exchange factors (GEFs), specifically the PH and SEC7 domain-containing protein (PSD) family. The PSD family of proteins consists of four members known as PSD1, PSD2, PSD3 and PSD4. PSD4 (pleckstrin and Sec7 domain containing 4), also known as TIC or EFA6B, is a 1,056 amino acid cell membrane protein that is widely expressed, with highest levels of expression found in placenta, pancreas, spleen, thymus and peripheral blood. Containing one PH domain and a SEC7 domain, PSD4 is a guanine nucleotide exchange factor for ARF6-like protein and is involved in membrane recycling.

## REFERENCES

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2. Luton, F., et al. 2004. EFA6, exchange factor for ARF6, regulates the Actin cytoskeleton and associated tight junction in response to E-cadherin engagement. *Mol. Biol. Cell.* 15: 1134-1145.
3. Matsuya, S., et al. 2005. Cellular and subcellular localization of EFA6C, a third member of the EFA6 family, in adult mouse Purkinje cells. *J. Neurochem.* 93: 674-685.
4. Luton, F. 2005. The role of EFA6, exchange factor for ARF6, for tight junction assembly, functions, and interaction with the Actin cytoskeleton. *Meth. Enzymol.* 404: 332-345.
5. Sakagami, H., et al. 2006. Distinct spatiotemporal expression of EFA6D, a guanine nucleotide exchange factor for ARF6, among the EFA6 family in mouse brain. *Brain Res.* 1093: 1-11.
6. Macia, E., et al. 2008. The pleckstrin homology domain of the ARF6-specific exchange factor EFA6 localizes to the plasma membrane by interacting with phosphatidylinositol 4,5-bisphosphate and F-Actin. *J. Biol. Chem.* 283: 19836-19844.
7. Klein, S., et al. 2008. EFA6 facilitates the assembly of the tight junction by coordinating an ARF6-dependent and -independent pathway. *J. Biol. Chem.* 283: 30129-30138.
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## CHROMOSOMAL LOCATION

Genetic locus: PSD4 (human) mapping to 2q13; Psd4 (mouse) mapping to 2 A3.

## RESEARCH USE

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

## SOURCE

PSD4 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PSD4 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-161174 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PSD4 (P-13) is recommended for detection of PSD4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other PSD family members.

Suitable for use as control antibody for PSD4 siRNA (h): sc-94601, PSD4 siRNA (m): sc-152539, PSD4 shRNA Plasmid (h): sc-94601-SH, PSD4 shRNA Plasmid (m): sc-152539-SH, PSD4 shRNA (h) Lentiviral Particles: sc-94601-V and PSD4 shRNA (m) Lentiviral Particles: sc-152539-V.

Molecular Weight of PSD4: 116 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.