Human Protocadherin γ C3
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 926518

Catalog Number: FAB83641N

100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Protocadherin γ C3 in direct ELISAs. Stains human Protocadherin γ C3 transfectants but not irrelevant transfectants in flow cytometry.
Source	Monoclonal Mouse IgG_1 Clone # 926518
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Protocadherin γ C3 Met1-Tyr693 Accession # Q9UN70
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	HEK293 human embryonic kidney cell line transfected with human Protocadherin γ C3

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Protocadherin γ C3 is a member of the γ subgroup of clustered protocadherins (1). Like other γ protocadherins, mature Protocadherin γ C3 contains six extracellular cadherin domains, a transmembrane region, and a cytoplasmic domain (2, 3). Within the ECD, human Protocadherin γ C3 shares 91% and 92% amino acid sequence identity with mouse and rat Protocadherin γ C3, respectively. It plays an important role in cell adhesion and cell recognition through CA^{2+} -dependent homophilic interaction (4). MMP-mediated shedding of γ protocadherins and release of their cytoplasmic domain by the γ-secretase complex results in translocation of the intracellular domain into the nucleus and transcriptional activation of target genes (5-7). Protocadherin γ C3 is cleaved within its ectodomain by ADAM10 in fibroblasts and neuronal cells (8). Deletion of the entire protocadherin γ gene cluster is embryonic lethal in mice (9). Protocadherin γ C3 is most notably expressed in the nervous system (10). Conditional deletion of the protocadherin γ gene cluster in mice affects development of retinal ganglion cells and spinal cord interneurons, resulting in decreased synapses and increased neuronal apoptosis (9, 11-14). The C-type protocadherin γ isoforms specifically may be responsible for the increased apoptosis observed in mice lacking the entire protocadherin γ gene cluster (15). Cortical neuron-specific deletion of the protocadherin γ gene cluster results in dendritic arborization defects (16). The protocadherin γ subfamily may also be involved in cerebrospinal fluid production and the maturation and differentiation of postnatally born olfactory granule cells (17, 18).

References:

1. Yagi, T. (2008) Dev. Growth Differ. **50**:S131.
2. Sano, K. *et al.* (1993) EMBO J. **12**:2249.
3. Kohmura, N. *et al.* (1998) Neuron **20**:1137.
4. Obata, S. *et al.* (1995) J. Cell Sci. **108**:3765.
5. Hambsch, B. *et al.* (2005) J. Biol. Chem. **280**:15888.
6. Haas, I.G. *et al.* (2005) J. Biol. Chem. **280**:9313.
7. Bonn, S. *et al.* (2007) Mol. Cell. Biol. **27**:4121.
8. Reiss, K. *et al.* (2006) J. Biol. Chem. **281**:21735.
9. Wang, X. *et al.* (2002) Neuron **36**:843.
10. Phillips, G.R. *et al.* (2003) J. Neurosci. **23**:5096.
11. Weiner, J.A. *et al.* (2005) Proc. Natl. Acad. Sci. USA **102**:8.
12. Lefebvre, J.L. *et al.* (2008) Development **135**:4141.
13. Prasad, T. *et al.* (2008) Development **135**:4153.
14. Lin, C. *et al.* (2010) J. Biol. Chem. **285**:41675.
15. Chen, W.V. *et al.* (2012) Neuron **75**:402.
16. Garrett, A.M. *et al.* (2012) Neuron **74**:269.
17. Lobas, M.A. *et al.* (2012) J. Neurochem. **120**:913.
18. Ledderose, J. *et al.* (2013) Sci. Rep. **3**:1514.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human Protocadherin γ C3
Alexa Fluor® 700-conjugated Antibody

Monoclonal Mouse IgG_1 Clone # 926518

Catalog Number: FAB83641N

100 µg

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449