

DESCRIPTION

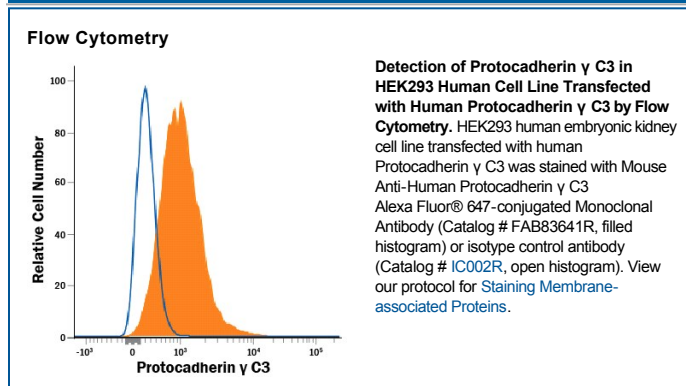
Species Reactivity	Human
Specificity	Detects human Protocadherin γ C3 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 926518
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Protocadherin γ C3 Met1-Tyr693 Accession # Q9UN70
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *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	5 μ L/10 ⁶ cells	See Below

DATA



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. <ul style="list-style-type: none"> 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 Ca²⁺-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 generated 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. Hamsch, 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.

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