

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Protocadherin γ C3 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 926531
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese Hamster Ovary cell line CHO-derived human Protocadherin γ C3 protein Ser30-Tyr693 Accession # Q9UN70
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

Immunohistochemistry Optimal dilution of this antibody should be experimentally determined.

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 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 born olfactory granule cells (17, 18).

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