

## DESCRIPTION

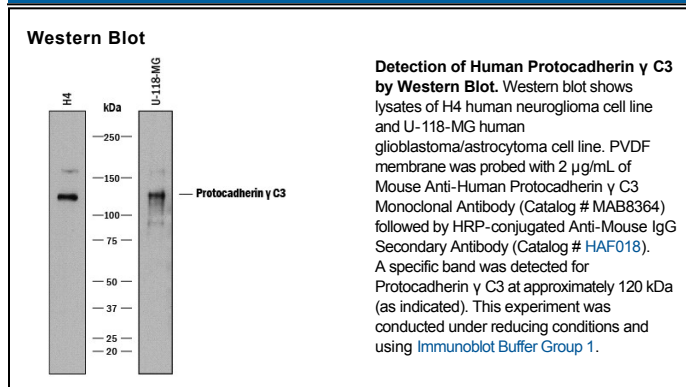
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Protocadherin $\gamma$ C3 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>1</sub> Clone # 926525
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Chinese hamster ovary cell line CHO-derived recombinant human Protocadherin $\gamma$ C3 Met1-Tyr693 Accession # Q9UN70
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

## 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
<b>Western Blot</b>	2 $\mu$ g/mL	See Below

## DATA



## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

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

**References:**

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