

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                         |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human Piccolo in direct ELISAs.                                                       |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                          |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                     |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human Piccolo<br>Ala4065-Phe4328<br>Accession # NP_149015 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm               |
| <b>Formulation</b>                                                                                                                                                                                      | 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

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

#### BACKGROUND

Piccolo (PCLO; also known as Aczonin) is a 530-570 kDa member of a small family of zinc finger proteins that are associated with the cytoskeletal matrix of exocytosis-competent cells. Its name (as well as that of oboe and bassoon) derives from the assumption that this molecule is part of an ensemble of "presynaptic" proteins that orchestrate secretory events at (presynaptic) cell membranes. Piccolo is known to be initially present in the trans-Golgi of neuronal cells. When needed, it is transported to the presynaptic density (or active zones) of GABAergic and glutamergic neurons, and to the plasma membrane of pancreatic  $\beta$ -cells. It reportedly forms homodimers and heterodimers with Rim2, and serves as a  $Ca^{2+}$  sensor for exocytosis. Human Piccolo is 5065 amino acids (aa) in length. It is a multidomain protein with N-terminal Pro- and Gln-rich sequences, two C4-type Zn-finger motifs (aa 535-1028), one PZD domain (aa 4427-4478) and two membrane-binding C2 domains (aa 4565-5057). There are at least 30 potential Thr/Ser and two Tyr phosphorylation sites. Multiple splice variants exist that principally involve insertions and deletions. None of the splice forms are missing, or show substitutions for, the range of amino acids used by R&D Systems for antibody production. Two splice forms contain identical insertions of 7, 8, 9, 17, 43 and 54 aa, and differ only in a deletion of 60 aa at the C-terminus. A third splice variant shows a 48 aa substitution for aa 443-5065, while a fourth isoform utilizes an alternative start site at Met4459 that is coupled to 1) a 17 aa insertion after Lys4570, and 2) a deletion of aa 4798-5065. Over aa 4065-4328, human Piccolo shares 97% aa sequence identity with mouse Piccolo.

#### PRODUCT SPECIFIC NOTICES

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