

**DESCRIPTION**

**Source** Chinese Hamster Ovary cell line, CHO-derived  
Met25-Pro1227, with a C-terminal 6-His tag  
Accession # BAA13189

**N-terminal Sequence Analysis** Met25

**Predicted Molecular Mass** 133 kDa

**SPECIFICATIONS**

**SDS-PAGE** 140-160 kDa, reducing conditions

**Activity** Measured by its binding ability in a functional ELISA.  
When Recombinant Mouse Plexin A2 is coated at 3 µg/mL, Recombinant Human Semaphorin 6A Fc Chimera (Catalog # 1146-S6) binds with an apparent  $K_D$  <25 nM.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 400 µg/mL in PBS.

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Plexin A2, originally called OCT in human or Plexin 2 in mouse, is a 220-230 kDa type I transmembrane glycoprotein of the Plexin A subfamily of Plexin proteins (1-3). Mouse Plexin A2 encodes 1894 amino acids (aa) including a 34 aa signal peptide, a 1203 aa extracellular domain (ECD), a 21 aa transmembrane sequence, and a 636 aa cytoplasmic region. The ECD contains one Sema domain (aa 35-508) and four IPT regions (aa 858-1228). Within the ECD, mouse Plexin A2 shares aa sequence identity of 96% with human, equine, canine and bovine Plexin A2, and 99% with rat Plexin A2. The four mouse Plexin A proteins share 59-66% aa sequence identity with each other and show distinct, but sometimes overlapping, expression and interactions (4, 5). Plexin A2 participates in cell migration and axon guidance by serving as a receptor for transmembrane Semaphorins 6A and 6B, and as a coreceptor with Neuropilin-1 for secreted Semaphorins 3A and 3C (6-13). In the developing mouse, Plexin A2 is found during nervous system development on hippocampal CA3 pyramidal cells and dentate granule cells, cerebellar granule cells, olfactory neurons, sensory neurons and spinal motor neurons (4-10). During cardiac morphogenesis, it is found on cardiac neural crest cells and is important in cardiac outflow tract formation (10). Expression is also reported in the mouse embryo oral epithelium, lung mesenchyme, and intestinal muscularis externa (4). Plexin A2 is induced by BMP2 in differentiating osteoblasts and promotes their maturation (14).

**References:**

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