

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived mouse Caspr2 protein Ala28-Ser1262, with a C-terminal 6-His tag Accession # Q9CPW0
N-terminal Sequence	Ala28
Analysis	
Predicted Molecular Mass	138 kDa

SPECIFICATIONS

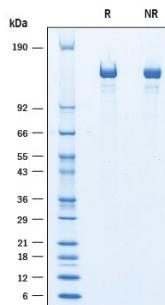
SDS-PAGE	130-150 kDa, under reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Mouse Caspr2 His-tag (Catalog # 10196-CR) is immobilized at 0.5 µg/mL (100 µL/well), the concentration of Recombinant Human Contactin-1 Fc Chimera (Catalog # 904-CN) that produces 50% of the optimal binding response is 5-30 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 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.

DATA

SDS-PAGE



2 µg/lane of Recombinant Mouse Caspr2 His-tag (Catalog # 10196-CR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® blue staining, showing bands at 130-150 kDa.

BACKGROUND

Contactin Associated Protein-Like 2 (CASPR2), also known as Cnnap2, is a neuronal type I transmembrane member of the neurexin family of adhesion molecules (ref.). CASPR2, along with CASPR1 (or Cnnap1), is required for radial and longitudinal organization of myelinated axons (1). Mature mouse CASPR2 consists of a large extracellular domain (ECD) containing four Laminin G-like domains as well as two EFG-like domains and a Fibrinogen C-terminal domain, a transmembrane segment, and a short cytoplasmic domain. The ECD of mouse CASPR2 shares 94% and 93% amino acid (aa) identity with the human and rat ECD, respectively. CASPR2 is thought to be important for the control of neuron-glia interactions and is associated with alterations in synaptic structure, neuronal network activity, and an autism-related phenotype in mice (2, 3). In myelinated nerves, CASPR2 is confined to the juxtaparanodal region of the axon where it appears to associate with the immunoglobulin domains of TAG-1 (transient axonal glycoprotein 1) to form a scaffold, which clusters the potassium channels Kv1.1 and Kv1.2 (4). Recent studies demonstrate that CASPR2 binds to contactin1 (5).

References:

1. Gordon A. et al. (2014) J. Neurosci. **10**:1523.
2. Cope, E. et al. (2016) eNeuro. **0196-16**.
3. Peñagarikano O. et al. (2011) Cell. **147**(1):236.
4. Poliak, S. et al. (1999) Neuron **24**:1037.
5. Rubio-Marrero, E. N. et al. (2016) J. Bio. Chem. **291**:5788.