

#### DESCRIPTION

**Source** Mouse myeloma cell line, NS0-derived mouse ELFN1 protein  
Gln26-Tyr418, with a C-terminal 6-His tag  
Accession # Q8C8T7.1

**N-terminal Sequence Analysis** Gln26

**Predicted Molecular Mass** 45 kDa

#### SPECIFICATIONS

**SDS-PAGE** 73-84 kDa, under reducing conditions

**Activity** Bioassay data are not available.

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

**Purity** >95%, 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. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 500 µg/mL in PBS.

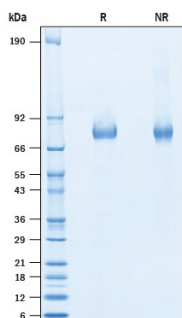
**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

- 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



**Recombinant Mouse ELFN1 His-tag Protein SDS-PAGE.** 2 µg/lane of Recombinant Mouse ELFN1 His-tag Protein (Catalog # 10644-EF) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 73-84 kDa.

#### BACKGROUND

Extracellular leucine-rich repeat and fibronectin type-III domain-containing protein 1 (ELFN1), also known as protein phosphatase 1 regulatory subunit 28 (PPP1R28), is a member of the large family of leucine-rich repeat (LRR) neuronal adhesion protein (1,2). Mouse ELFN1 consists of an extracellular domain (ECD) containing five LRR domains, one LRR C-terminal (LRRCT) domain and an FN3 domain, a type I transmembrane domain, and a cytoplasmic tail (2). Within the mature ECD, mouse ELFN1 shares 89% and 100% amino acid sequence identity with human and rat ELFN1, respectively. ELFN1 is strongly expressed in globus pallidus and interneurons in cortex and hippocampus in both developing and adult brains and is a selective binding partner of group III glutamate receptors (mGluR) (2, 3). Recent studies showed that ELFN1 physically anchor metabotropic glutamate receptor 6 (mGluR6) and mGluR7 across retinal and hippocampal synapses (3, 4), and can be recruited selectively to all group III mGluRs (mGluR4, mGluR6, mGluR7, and mGluR8) to allosterically modulate these receptors (2). ELFN1 mutant mice display seizures, subtle motor abnormalities, hyperactivity and altered thigmotaxis behavior (4). Given the functions and discrete patterns of many known LRR family proteins it has been proposed that ELFN1 could serve as a neuronal adhesion molecule and play an integral role in synapse formation and differentiation via the coordination of both pre- and postsynaptic machineries, thereby involved in neurite outgrowth, axon guidance, fasciculation, and synapse formation (5).

#### References:

1. Stachniak, T. *et al.* (2019) J. Neurosci. **39**:4461.
2. Dunn, H.A. *et al.* (2018) Proc. Natl. Acad. Sci. USA **115**:5022.
3. Dolan, J. *et al.* (2007) BMC Genomics **8**:320.
4. Dolan, J. and Mitchel, K.J. (2013) PLoS One **8**:e8049.
5. Williams, M.E. *et al.* (2010) Neuron **68**:9.