Data Sheet (Cat.No.TMPY-00724)

TargetMol

CNTN5 Protein, Human, Recombinant (His)

General Information

Synonyms: NB-2;contactin 5;HNB-2s

Protein Construction: A DNA sequence encoding the mature form of human CNTN5 (NP_055176.1) (Met 1-Gln 1059) with a C-terminal polyhistidine tag was expressed. Predicted N terminal: Glu 19

Species: Human

Expression Host: HEK293 Cells

Accession: O94779-1

Molecular Weight: 116 kDa (predicted); 130-140 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity: Measured by the ability of the immobilized protein to support the adhesion of C6 Rat brain glial cells. When 5 x 10E4 cells/well are added to CNTN5 coated plates (12.5μg/ml and 100 μl/well), approximately 30%-50% will adhere specifically after 60 minutes at 37℃

Purity: > 90 % as determined by SDS-PAGE

Endotoxin: < 1.0 EU/μg of the protein as determined by the LAL method.

Formulation: Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Contactins are a subgroup of molecules belonging to the immunoglobulin superfamily that are expressed mainly in the nervous system. The subgroup consists of six members: Contactin-1, Contactin-2(TAG-1), Contactin-3(BIG-1), BIG-2, Contactin-5(NB-2) and NB-3. Since their identification in the late 1980s, Contactin-1 and Contactin-2 have been studied extensively. Axonal expression and the neurite extension activity of Contactin-1 and Contactin-

2 attracted researchers to study the function of these molecules in axon guidance during development. Contactin-1 and Contactin-2 have come to be known as the principal molecules in the function and maintenance of myelinated neurons. In contrast, the function of the other four members of this subgroup remained unknown until recently. Contactin-5, also known as NB-2, is one of the neural recognition molecules in the contactin subgroup. Contactin-5 is expressed in brain and kidney and at very low level in placenta. In brain, Contactin-5 is highly expressed in the occipital lobe, amygdala, cerebral cortex, frontal lobe, thalamus and temporal lobe. Mice deficient in the Contactin-5 gene exhibit aberrant responses to acoustic stimuli. Contactin-5 may play a role in maturation of glutamatergic synapses in the brainstem during the final stages of auditory development. Contactin-5 gene may contribute to human neurological disorders.

Reference

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Ogawa J, et al. (2001) Neural recognition molecule NB-2 of the contactin/F3 subgroup in rat: Specificity in neurite outgrowth-promoting activity and restricted expression in the brain regions. J Neurosci Res. 65(2):100-10.
Li H, et al. (2003) Aberrant responses to acoustic stimuli in mice deficient for neural recognition molecule NB-2. Eur J Neurosci. 17(5):929-36.
Shimoda Y, et al. (2009) Contactins: Emerging key roles in the development and function of the nervous system. Cell adhesion & migration 3(1):64-70.
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