Recombinant Human DGCR2 His-tag

Catalog Number: 10161-DG

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human DGCR2 protein Glu22-Ala349, with an C-terminal 6-His tag Accession # P98153
N-terminal Sequence Analysis	Glu22
Predicted Molecular Mass	38 kDa

SPECIFICATIONS

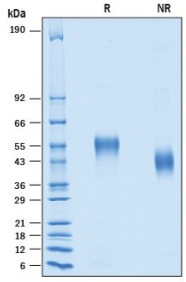
SDS-PAGE	40-60 kDa, under reducing conditions
Activity	Bioassay data are not available.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from 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 Human DGCR2 His-tag Protein SDS-PAGE 2 µg/lane of Recombinant Human DGCR2 His-tag (Catalog # 10161-DG) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 40-60 kDa.

BACKGROUND

DiGeorge Syndrome Critical Region 2 (DGCR2), also known as IDD, DGS-C, LAN, and SEZ-12, is an adhesion receptor protein located on the long arm of chromosome 22 (1). The DGCR2 gene encodes an integral membrane protein, consisting of an extracellular domain, a single transmembrane region and a cytoplasmic tail (1). The mature extracellular domain (ECD) of DGCR2 contains both a C-type lectin domain and a cysteine-rich region similar to that of the low density lipoprotein receptor (LDLR) (1, 3). The mature ECD of human DGCR2 shares 93% and 92% amino acid sequence identity with mouse and rat, respectively. DGCR2 is expressed during neurodevelopment in human brain tissues (3). Deletion of the 22q11.2 region results in an extremely variable disorder called 22q11.2 deletion syndrome, with a phenotype ranging from very mild symptoms to severe intellectual disability, facial dysmorphism, heart defects, and urogenital abnormalities (4). Recent studies suggest that DGCR2 regulates critical steps of early cortico-genesis possibly through a Reelin-dependent mechanism. Deletion of DGCR2 has a pathogenic impact on cortical formation by reducing protein expression level, and it plays a critical role in vulnerability to schizophrenia (5). Furthermore, expression of DGCR2 together with USP18 gene may serve as a progonostic marker for muscle invasive bladder cancer survival in patients (5).

References:

1. Augusseau, S. *et al.* (1986) Hum. Genet. **74**:206.
2. Mugikura, S. *et al.* (2016) Biochem Biophys Rep. **5**:120.
3. Kajiwara, K. *et al.* (1996) Biochem. Biophyis. Res. Commun. **222**:144.
4. Vaisvilas, M. *et al.* (2018) Balkan J Med Genet. **21**:87.
5. Molinard-Chenu A. and Dayer A. (2017) Biol. Psych. **83**:692.

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