

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 Measured by its ability to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons.
Recombinant Human DGCR2, immobilized at 2.5 µg/mL on a 96 well plate, is able to significantly enhance neurite outgrowth.

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.

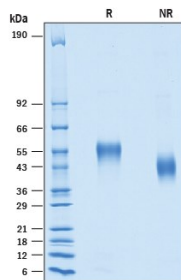
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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



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 prognostic 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 Res.* **5**:120.
3. Kajiwara, K. *et al.* (1996) *Biochem. Biophys. 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.