

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived mouse Guanylyl Cyclase C/GUCY2C protein
Val20-Gln430, with a C-terminal 6-His tag
Accession # Q3UWA6.1

N-terminal Sequence Analysis Val20

Predicted Molecular Mass 48 kDa

SPECIFICATIONS

SDS-PAGE 85-100 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 with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

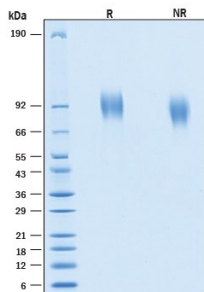
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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

- 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 Guanylyl Cyclase C/GUCY2C His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Mouse Guanylyl Cyclase C/GUCY2C His-tag Protein (Catalog # 11093-GC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 85-100 kDa.

BACKGROUND

Guanylyl Cyclase C (GUCY2C), also known as heat-stable enterotoxin receptor, is a type I transmembrane protein of the guanylate cyclase (GC) family and helps regulate intestinal function (1, 8). There are 7 known members of the GC family (GC-A through GC-G) and they catalyze the conversion of guanosine triphosphate to cyclic guanosine monophosphate (cGMP) and pyrophosphate (1-4). Mature mouse GUCY2C consists of an extracellular domain (ECD) with a ligand binding domain, a transmembrane segment and a cytoplasmic region possessing a pseudokinase domain and a GC catalytic domain. The ECD of mature mouse GUCY2C shares 70% and 88% amino acid sequence identity with the ECD of human and rat GUCY2C, respectively. GUCY2C is primarily expressed in intestinal epithelial cells from the duodenum to rectum and binds to the endogenous gastrointestinal hormones guanylin and uroguanylin (1-4). Activation of GUCY2C signaling mediates fluid-ion homeostasis, intestinal inflammation, and cell proliferation in a cGMP-dependent manner (5). GUCY2C is also expressed in neurons, where it plays a role in attention deficiency/hyperactive behavior (6). GUCY2C is being investigated as a treatment for several gastrointestinal disorders including irritable bowel syndrome, obesity, colorectal cancer, and chronic idiopathic constipation (7, 8). Our Avi-tag Biotinylated GUCY2C features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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6. Gong, R. *et al.* (2011) Science. **333**:1642.
7. Waldman, S.A. and Camilleri, M. (2018) Gut. **67**:1543.
8. Kim, G.W. *et al.* (2013) Trends Endocrinol Metab. **24**(4):165.