

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived mouse Guanylyl Cyclase C/GUCY2C protein		
	Mouse Guanylyl Cyclase C/GUCY2C (Val20-Gln430) Accession # Q3UWA6.1	IEGRMD	Mouse IgG1 (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Val20		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	74 kDa		

SPECIFICATIONS

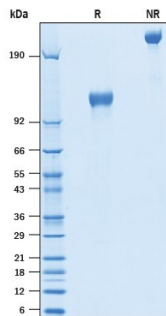
SDS-PAGE	109-124 kDa, under reducing conditions
Activity	Measured by its ability to inhibit neurite outgrowth of E16-E18 rat embryonic cortical neurons. 2.5 µg/mL of protein is able to significantly inhibit neurite outgrowth.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>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 1 mg/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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 Fc Chimera Protein SDS-PAGE 2 µg/lane of Recombinant Mouse Guanylyl Cyclase C/GUCY2C Fc Chimera Protein (Catalog # 10574-GC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 109-124 kDa and 218-248 kDa, respectively.

BACKGROUND

Guanylyl Cyclase C (GUCY2C), also known as heat-stable enterotoxin receptor, is a type I transmembrane protein of the guanylate cyclase (GC) family expressed by intestinal epithelial cells from the duodenum to rectum. It was first identified as the intestinal epithelial receptor regulating fluid and electrolyte transport in the secretory diarrhea induced by bacterial enterotoxins (1). 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 (2-4). Mature mouse GUCY2C consists of an extracellular domain (ECD) with a ligand binding domain, a transmembrane segment and a cytoplasmic region possessing a kinase and GC catalytic domain. The ECD of mouse GUCY2C shares 70% and 88% amino acid sequence identity with the ECD of human and rat GUCY2C, respectively. Endogenous ligands of GUCY2C include guanylin and uroguanylin (5). GUCY2C in epithelial cells plays an important role in cell dynamics and homeostatic balance of proliferation, metabolism, and differentiation that organizes the guanylyl cyclase C hormone axis. GUCY2C is also expressed in the brain and is implicated in attention deficiency and hyperactive behavior (5-7).

References:

1. Lucas K. *et al.* (2000) *Pharmacol. Rev.* **52**:375.
2. Potter, L. R. (2011) *Cell Signal.* **23**:1921.
3. Arshad, N. *et al.* (2013) *J. Biol. Chem.* **288**:3907.
4. Gibbons, A. V. *et al.* (2013) *Cancer Res.* **73**:22.
5. Erik, S. *et al.* (2016) *Mol. Pharmacol.* **90**:199.
6. Gibbons, A. V. *et al.* (2013) *Cancer Res.* **73**:22.
7. Gong, R. *et al.* (2011) *Science* **333**:1642.