Recombinant Human GPR111

Catalog Number: 6494-GP

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived Cys19-Ser375, with a C-terminal 6-His tag Accession # Q8IZF7.2
N-terminal Sequence Analysis	Cys19
Predicted Molecular Mass	40.9 kDa

SPECIFICATIONS

SDS-PAGE	55-66 kDa, reducing conditions
Activity	Measured by the ability of the immobilized protein to support the adhesion of U-87 MG human glioblastoma/astrocytoma cells. The ED_{50} for this effect is 1-5 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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.

BACKGROUND

GPR111, also known as PGR20, is an approximately 70 kDa member of the LN-7TM family of adhesion G protein-coupled receptors. Like other LN-7TM family proteins, it contains an extended N-terminal extracellular region followed by a series of seven transmembrane (TM) segments and a short C-terminal cytoplasmic tail (1, 2). The N-terminal domain contains a mucin-like stalk and a juxtamembrane region that resembles the GPS motif found in other LN-7TM proteins. The GPS motif is a component of the conserved GAIN domain which mediates the autoproteolysis and shedding of a wide range of proteins including LN-7TM proteins (3). The GPS-like motif in GPR111, however, is divergent from the consensus motif and does not appear to be cleavable (3, 4). Alternative splicing of human GPR111 generates a long isoform with a 92 aa substitution for the N-terminal 24 residues as well as a 19 aa substitution in the final TM segment and cytoplasmic tail. This recombinant protein product corresponds to the N-terminal extracellular domain of the shorter isoform (aa 19-375). Within this region, human GPR111 shares approximately 68% aa sequence identity with mouse and rat GPR111. GPR111 is expressed in squamous epithelia of the skin, esophagus, tongue epidermis, and stomach (4).

References:

1. Fredriksson, R. *et al.* (2002) FEBS Lett. **531**:407.
2. Bjarnadottir, T.K. *et al.* (2004) Genomics **84**:23.
3. Arac, D. *et al.* (2012) EMBO J. **31**:1364.
4. Promel, S. *et al.* (2012) Dev. Dyn. **241**:1591.

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