Recombinant Human VIPR2 Fc Chimera

Catalog Number: 11003-VR

DESCRIPTION

Source

Human embryonic kidney cell, HEK293-derived human VIPR2 protein

Recombinant Human VIPR2 (Arg26-Val126) Accession # P41587.2	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Arg26
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	38 kDa

SPECIFICATIONS

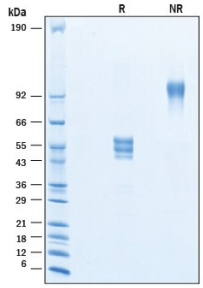
SDS-PAGE	45-60 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Growth Hormone-Releasing Factor is immobilized at 2.00 µg/mL, 100 µL/well, Recombinant Human VIPR2 Fc Chimera binds with an ED_{50} of 7.00-42.0 µg/mL.
Endotoxin Level	<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 Human VIPR2 Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Human VIPR2 Fc Chimera Protein (Catalog # 11003-VR) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 45-60 kDa and 90-120 kDa, respectively.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Recombinant Human VIPR2 Fc Chimera

Catalog Number: 11003-VR

BACKGROUND

Vasoactive intestinal polypeptide receptor 2 (VIPR2 or VPAC2) is a transmembrane receptor that belongs to the B class G protein coupled receptor family of proteins (1). Mature, human VIPR2 consists of an extracellular domain (ECD) with a hormone receptor region followed by seven transmembrane regions and a short cytoplasmic domain. The ECD of human VIPR2 shares 90% amino acid sequence identity with both mouse and rat VIPR2. Human VIPR2 is expressed predominantly in skeletal muscle, and to a lesser extent in the brain, heart, pancreas, and placenta (1). VIPR2 is coupled to a cAMP mediated signal transduction pathway and binds two homologous neuropeptides, vasoactive intestinal peptide (VIP) and pituitary adenylate cyclase-activating polypeptide (PACAP), with high affinity (1). VIP plays several roles during neural development, including stimulating neurogenesis, promoting survival of neurons, and assisting in neuron repair (1, 2). Additionally, VIP signaling via VIPR2 has been implicated in regulating immune responses (3). VIPR2 gene duplication and altered signaling of VIP has been associated with the pathogenesis of schizophrenia and may also play a role in autism (4-6). VIPR2 activation has been linked to disruption of cortical neuronal maturation in mice (7). Studies suggest that VIPR2 could be a potential target in the development of novel antipsychotic drugs (5).

References:

1. Lutz, E. M. *et al.* (1999) FEBS Letters. **458**:197.
2. Hill, J. *et al.* (2007) Curr. Pharm. Des. **13**:1079.
3. Abad, C. and Var Tan, Y. (2016) J Clin Exp Neuroimmunol **1**:104.
4. Vacic, V. *et al.* (2011) Nature. **471**:499.
5. Levinson, D. *et al.* (2011) Ameri. J. Psych. **168**:302.
6. Firouzabadi, S. G. *et al.* (2017) Molec. Neuobio. **54**:7019.
7. Takeuchi, S. *et al.* (2020) Front. Neurosci. **14**:521.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449