Human FFAR3 full length protein-synthetic nanodisc

Cat. No. FLP100237

PRODUCT INFORMATION

Tag	**Warning**: Undefined variable $hasAttributeValueDescription in **/www/wwwroot/tech.dimabio.cn/wp-content/plugins/woocommerce-print-products/public/class-woocommerce-print-products-public.php** on line **2806** C-Flag Tag
Target	FFAR3
Synonyms	FFA3R, GPR41, GPR42
Description	Human FFAR3 full length protein-synthetic nanodisc
Delivery	6~8weeks
Uniprot ID	O14843
Expression Host	HEK293
Protein Families	GPCR,Transmembrane,Druggable Genome,
Protein Pathways	N/A
Molecular Weight	The human full length FFAR3 protein has a MW of 38.6kDa
Formulation & Reconstitution	Lyophilized from nanodisc solubilization buffer (20 mM Tris-HCl, 150 mM NaCl, pH 8.0). Normally 5% – 8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for
Storage&Shipping	Store at -20°C to -80°C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80°C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Background	G protein-coupled receptor that is activated by a major product of dietary fiber digestion, the short chain fatty acids (SCFAs), and that plays a role in the regulation of whole-body energy homeostasis and in intestinal immunity. In omnivorous mammals, the short chain fatty acids acetate, propionate and butyrate are produced primarily by the gut microbiome that metabolizes dietary fibers. SCFAs serve as a source of energy but also act as signaling molecules. That G protein-coupled receptor is probably coupled to the pertussis toxin-sensitive, G(i/o)-alpha family of G proteins. Its activation results in the formation of inositol 1,4,5-trisphosphate, the mobilization of intracellular calcium, the phosphorylation of the MAPK3/ERK1 and MAPK1/ERK2 kinases and the inhibition of intracellular cAMP accumulation (PubMed:12711604). Activated by SCFAs and by beta-hydroxybutyrate, a ketone body produced by the liver upon starvation, it inhibits N-type calcium channels and modulates the activity of sympathetic neurons through a signaling cascade involving the beta and gamma subunits of its coupled G protein, phospholipase C and MAP kinases. Thereby, it may regulate energy expenditure through the control of the sympathetic nervous system that controls for instance heart rate. Upon activation by SCFAs accumulating in the intestine, it may also signal to the brain via neural circuits which in turn would regulate intestinal gluconeogenesis. May also control the production of hormones involved in whole-body energy homeostasis. May for instance, regulate blood pressure through renin secretion. May also regulate secretion of the PYY peptide by enteroendocrine cells and control gut motility, intestinal transit rate, and the harvesting of energy from SCFAs produced by gut microbiota. May also indirectly regulate the production of LEP/Leptin, a hormone acting on the CNS to inhibit food intake, in response to the presence of short-chain fatty acids in the intestine. Finally, may also play a role in glucose homeostasis. Besides its role in energy homeostasis, may play a role in intestinal immunity. May mediate the activation of the inflammatory and immune response by SCFAs in the gut, regulating the rapid production of chemokines and cytokines by intestinal epithelial cells. Among SCFAs, the fatty acids containing less than 6 carbons, the most potent activators are probably propionate, butyrate and pentanoate while acetate is a poor activator (PubMed:12496283, PubMed:12711604).[UniProtKB/Swiss-Prot Function]
Usage	Research use only
Conjugate	Unconjugated

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Address: Wuhan institute of Biotechnology B7, Biolake No.666 Gaoxin Road, Wuhan, Hubei, China
Telephone: +1 2409940618(USA) /+86-18062749453(China) /+86-400-006-0995(China)

Email: info@dimabio.com
Website: www.dimabio.com