

### **Anti-FFAR3/GPR41 Antibody, clone 16F4.1 clone 16F4.1, from mouse**

Art. ID                      SAF-MABN898  
Unit                         EA

#### **Description**

Free fatty acid receptor 3 (UniProt O14843, also known as G-protein coupled receptor 41) is encoded by the FFAR3 (also known as GPR41) gene (Gene ID 2865) in human. Free fatty acids (FFAs) act as both energy sources and signaling molecules via G-protein-coupled receptors (GPCRs) called FFARs (FFA receptors). FFAs are categorized by the length of their carbon chains into short-chain FAs (SCFAs, less than 6 carbons), medium-chain FAs (MCFAs, 6-12 carbons), and long-chain FAs (LCFAs, more than 12 carbons). MCFAs and LCFAs activate FFAR1 and FFAR4, whereas SCFAs activate FFAR3 and FFAR2. FFAR3 is an SCFA receptor that can be activated by propionate (C3), butyrate (C4), and valerate (C5). FFAR3 mediates PYY and GLP-1 secretion from endocrine and sympathetic outflow-dependent heart rate regulation and energy expenditure, while beta-Hydroxybutyrate, a ketone body produced in the liver during starvation, decreases sympathetic outflow by antagonizing FFAR3. FFAR3 is shown to couple Gα<sub>i</sub>/o pathway signaling upon activation by propionate binding in primary murine pancreatic beta cells, resulting in an inhibition of glucose-dependent insulin secretion. FFAR3 is a 7-transmembrane (a.a. 20-40, 48-68, 89-111, 133-153, 179-199, 223-243, 259-279) GPCR, having a short N-terminal extracellular portion (a.a. 1-19) and a long C-terminal cytoplasmic tail (a.a. 280-346).