PRODUCT INFORMATION

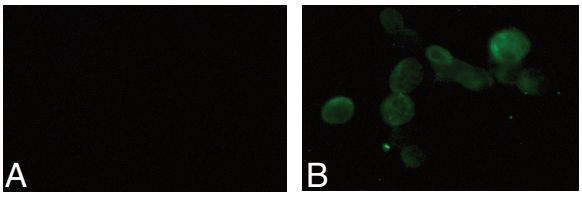
GPR31 (N-Term) Polyclonal Antibody

Item No. 14033

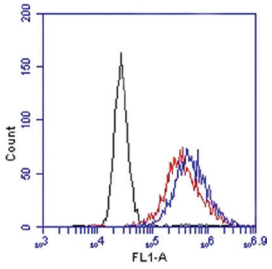
Overview and Properties

Contents:	This vial contains 500 µl peptide affinity-purified polyclonal antibody.
Synonyms:	12-(S)-hydroxy-5,8,10,14-Eicosatetraenoic Acid Receptor, G Protein-Coupled Receptor 31, 12-HETER, 12(S)-HETE Receptor
Immunogen:	A synthetic peptide from the N-terminal region of human GPR31
Species Reactivity:	(+) Human GPR31; other species not tested
Uniprot No.:	O00270
Form:	Lyophilized
Storage:	-20°C (as supplied)
Stability:	≥3 years
Storage Buffer:	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
Host:	Rabbit
Applications:	ELISA, flow cytometry (FC), and immunofluorescence (IF); the recommended starting dilution is 1:500, 1:200, and 1:100, respectively. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunofluorescent staining of PC3 cells. PC3 cells were fixed with cytospin, blocked with 5% normal goat serum, and washed between steps. Cayman's Goat Anti-Rabbit IgG FITC (Item No. 10006588) was used for detection at 1:200. *Panel A:* Control with FITC secondary alone *Panel B:* GPR31 (N-Term) Polyclonal Antibody (1:100)



Black: **Goat Anti-Rabbit IgG FITC (Item No. 10006588) (1:200)**
Red: **GPR31 (N-Term) Polyclonal Antibody (1:200)**
Blue: **GPR31 (N-Term) Polyclonal Antibody (1:100)**

PC3 cells were fixed with cytospin solution (methanol and carbowax), blocked with 5% normal goat serum, and washed between steps. Samples were gated to exclude debris. Fluorescein fluorescence was detected in the FL1 channel of an Accuri C6 flow cytometer. Immune complexes were detected with Cayman's Goat Anti-Rabbit IgG FITC (Item No. 10006588) at 1:200.

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Description

GPR31, also known as the 12(S)-HETE receptor (12-HETER), is a G protein-coupled receptor that is coupled to the G_i signal transduction pathway and activated by 12(S)-HETE (Item No. 34570), a metabolite of arachidonic acid (Item Nos. 90010 | 90010.1 | 10006607).[1,2] It is expressed by platelets and localizes to the plasma membrane and endoplasmic reticulum.[1,3] siRNA knockdown of *GPR31* inhibits 12(S)-HETE-induced tumor cell invasion *in vitro*, and *Gpr31* knockdown in murine Hepa1-6 cells reduces tumorigenesis of those cells in a mouse model of hepatocellular carcinoma recurrence after hepatic ischemia-reperfusion injury.[2,3] It is overexpressed in prostate cancer tumors and positively correlated with tumor grade.[4] Cayman's GPR31 (N-Term) Polyclonal Antibody can be used for ELISA, flow cytometry (FC), and immunofluorescence (IF) applications. The antibody recognizes the N-terminal region of GPR31 from human samples.

Reference

1. Van Doren, L., Nguyen, N., Garzia, C., *et al.* Lipid receptor GPR31 (G-protein-coupled receptor 31) regulates platelet reactivity and thrombosis without affecting hemostasis. *Arterioscler. Thromb. Vasc. Biol.* **41(1)**, e33-e45 (2021).
2. Guo, Y., Zhang, W., Giroux, C., *et al.* Identification of the orphan G protein-couple receptor GPR31 as a receptor for 12(S)-hydroxyeicosatetraenoic acid. *J. Biol. Chem.* **286(39)**, 33832-33840 (2011).
3. Fehrenbacher, N. and Philips, M.R. Targeting RAS - will GPR31 deliver us a new path forward? *Mol. Cell. Oncol.* **4(6)**, e1359228 (2017).
4. Honn, K.V., Guo, Y., Cai, Y., *et al.* 12-HETER1/GPR31, a high-affinity 12(S)-hydroxyeicosatetraenoic acid receptor, is significantly up-regulated in prostate cancer and plays a critical role in prostate cancer progression. *FASEB J.* **30(6)**, 2360-2369 (2016).

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