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OXGR1 / GPR99 Antibody

Rabbit mAb
Catalog # AP92922

Product Information

Application	WB, IF, FC, ICC
Primary Accession	Q96P68
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	GPR80; GPR99; Oxgr1; P2RY15; P2Y15;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	38251

Additional Information

Dilution	WB 1:500~1:2000 ICC/IF 1:50~1:200 FC 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human OXGR1 / GPR99
Description	Receptor for alpha-ketoglutarate. Seems to act exclusively through a G(q)-mediated pathway.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	OXGR1 {ECO:0000303|PubMed:36919698, ECO:0000312|HGNC:HGNC:4531}
Function	G protein-coupled receptor for dicarboxylates and amino dicarboxylates, such as alpha-ketoglutarate, itaconate and leukotriene E4 (PubMed:15141213, PubMed:36571463, PubMed:36919698, PubMed:41413034, PubMed:41791372). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as phospholipase C (PubMed:41413034, PubMed:41791372). OXGR1 is coupled to G(q) G proteins and mediates production of diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) (PubMed:36919698, PubMed:41413034, PubMed:41791372). Activation by alpha-ketoglutarate produced by proximal tubule renal cells upon metabolic alkalosis initiates an intrarenal paracrine signaling pathway that drives transepithelial salt reabsorption and bicarbonate secretion by SLC26A4/pendrin-positive intercalated cells (By similarity). Also acts as a regulator of vasodilatation in vascular smooth muscle cells: following activation by alpha-ketoglutarate, couples to GNAQ/G(q), initiating a signaling that activates MYLK/MLCK, thereby promoting MYL9 phosphorylation and vascular smooth muscle cell

contraction and limiting vasodilation (PubMed:41791372). Receptor for itaconate, a metabolite produced by myeloid lineages (PubMed:36919698). In the respiratory epithelium, couples the binding of itaconate to the activation of GNA11/G(11) and downstream intracellular Ca(2+) release, leading to mucocilliary clearance of airborne pathogens (PubMed:36919698). Receptor for leukotriene E4 (LTE4) produced by mast cells upon allergic inflammation (PubMed:41413034). Binds with high affinity to LTE4 and elicits mucin release from pulmonary epithelium in response to airborne fungi allergens (By similarity). Regulates mucin-producing goblet cell homeostasis (By similarity).

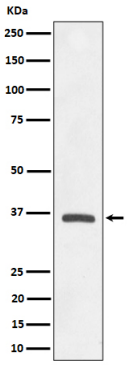
Cellular Location

Cell membrane; Multi-pass membrane protein. Note=Upon itaconate binding, internalizes via endocytosis in a beta-arrestin dependent manner

Tissue Location

Detected in kidney and, to a lower extent, in placenta (PubMed:12098360). Not detected in brain tissues including the frontal cortex, caudate putamen, thalamus, hypothalamus, hippocampus or pons (PubMed:12098360).

Images



Western blot analysis of OXGR1 / GPR99 expression in A549 cell lysate.

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