

## Specification

Application	WB, IF
Primary Accession	<a href="#">Q15743</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	41077

Proton-sensing G-protein coupled receptor activated by extracellular pH, which is required to monitor pH changes and generate adaptive reactions (PubMed:<a href="http://www.uniprot.org/citations/12955148" target="\_blank">12955148</a>, PubMed:<a href="http://www.uniprot.org/citations/29677517" target="\_blank">29677517</a>, PubMed:<a href="http://www.uniprot.org/citations/32865988" target="\_blank">32865988</a>, PubMed:<a href="http://www.uniprot.org/citations/33478938" target="\_blank">33478938</a>, PubMed:<a href="http://www.uniprot.org/citations/39753132" target="\_blank">39753132</a>, PubMed:<a href="http://www.uniprot.org/citations/40215959" target="\_blank">40215959</a>, PubMed:<a

href="http://www.uniprot.org/citations/40215960" target="\_blank">40215960</a>). The receptor is almost silent at pH 7.8 but fully activated at pH 6.8 (PubMed:<a href="http://www.uniprot.org/citations/12955148" target="\_blank">12955148</a>, PubMed:<a href="http://www.uniprot.org/citations/39753132" target="\_blank">39753132</a>). 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:<a href="http://www.uniprot.org/citations/29677517" target="\_blank">29677517</a>, PubMed:<a href="http://www.uniprot.org/citations/39753132" target="\_blank">39753132</a>). GPR68 is mainly coupled to G(q) G proteins and mediates production of diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) (PubMed:<a href="http://www.uniprot.org/citations/29677517" target="\_blank">29677517</a>, PubMed:<a href="http://www.uniprot.org/citations/39753132" target="\_blank">39753132</a>). Acts as a key mechanosensor of fluid shear stress and membrane stretch (PubMed:<a href="http://www.uniprot.org/citations/29677517" target="\_blank">29677517</a>, PubMed:<a href="http://www.uniprot.org/citations/30471999" target="\_blank">30471999</a>). Expressed in endothelial cells of small-diameter resistance arteries, where it mediates flow-induced dilation in response to shear stress (PubMed:<a href="http://www.uniprot.org/citations/29677517" target="\_blank">29677517</a>). May represent an osteoblastic pH sensor regulating cell-mediated responses to acidosis in bone (By similarity). Acts as a regulator of calcium-sensing receptor CASR in a seesaw manner: GPR68-mediated signaling inhibits CASR signaling in response to protons, while CASR inhibits GPR68 in presence of extracellular calcium (By similarity).

#### **Cellular Location**

Cell membrane; Multi-pass membrane protein

#### **Tissue Location**

Found at low level in a wide range of tissues, but significantly expressed in lung, kidney, bone and nervous system

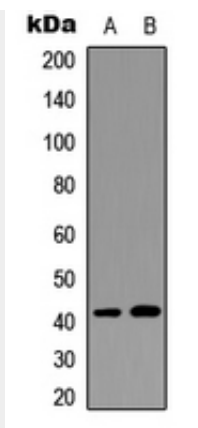
#### **Anti-GPR68 Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

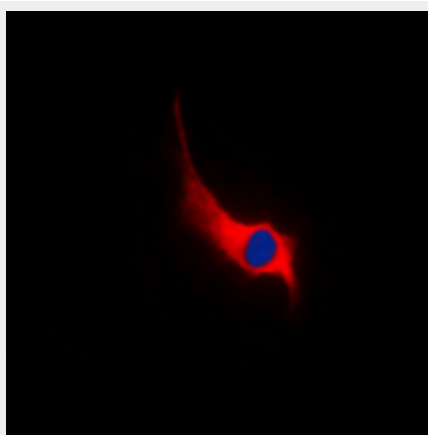
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Anti-GPR68 Antibody - Images**





Western blot analysis of GPR68 expression in HeLa (A), mouse spleen (B) whole cell lysates.



Immunofluorescent analysis of GPR68 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).

#### **Anti-GPR68 Antibody - Background**

Rabbit polyclonal antibody to GPR68