Anti-GBP2 Antibody

ER2001-12

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, FC
Molecular Wt:	Predicted band size: 67 kDa.

Description: Interferon-induced guanylate-binding protein 2 is a protein that in humans is encoded by the GBP2 gene. GBP2 is a gene related to the superfamily of large GTPases which can be induced mainly by interferon gamma. Interferons are cytokines that have antiviral effects and inhibit tumor cell proliferation. They induce a large number of genes in their target cells, including those coding for the guanylate-binding proteins (GBPs). GBPs are characterized by their ability to specifically bind guanine nucleotides (GMP, GDP, and GTP). The protein encoded by this gene is a GTPase that converts GTP to GDP and GMP. In addition, GBP2 gene can be a relationship between cell surface receptor and intracellular effectors which can transmit extracellular information into the cells as well as an intracellular signal transduction protein. A study on the bovine GBP2 gene showed the importance of GBP2 in the regulation of cell proliferation and the resistance to the pathogen infection such as an Exhibition of antiviral activity against influenza virus. GPB2 Promote an oxidative killing and deliver antimicrobial peptides to autophagolysosomal, providing broad host protection against different pathogen classes. During a viral infection, GBPs Family(GBP1, GBP2 and GBP5) play a vital role to activate canonical and non-canonical inflammasome to response to a pathogen infection via chlamydia muridarum.

Immunogen:	Synthetic peptide within human GBP2 aa 430-470.
Positive control:	SiHa cell lysate, human lung tissue lysate, human liver tissue, human liver carcinoma tissue, human colon tissue, human kidney tissue, A549.
Subcellular location:	Golgi apparatus membrane, Cytoplasm, perinuclear region, Membrane.
Database links:	SwissProt: P32456 Human

Recommended Dilutions:

WB	1:500-1:1,000
IHC-P	1:50-1:200
FC	1:50-1:100

Storage Buffer:	1*TBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.
Storage Instruction:	Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.
Purity:	Immunogen affinity purified.

Images

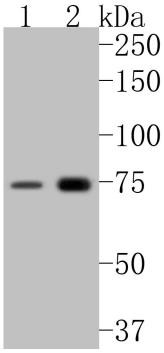

Fig1: Western blot analysis of GBP2 on different lysates. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ER2001-12, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Positive control:
Lane 1: SiHa cell lysate
Lane 2: human lung tissue lysate

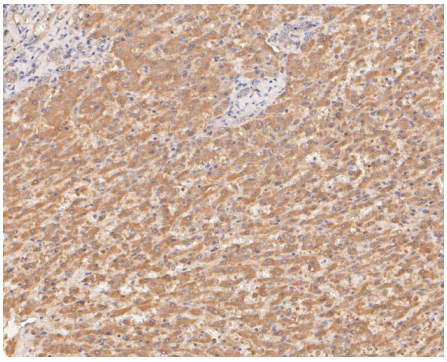

Fig2: Immunohistochemical analysis of paraffin-embedded human liver tissue using anti-GBP2 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER2001-12, 1/100) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX

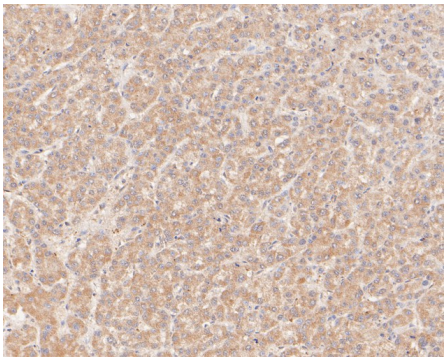

Fig3: Immunohistochemical analysis of paraffin-embedded human liver carcinoma tissue using anti-GBP2 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER2001-12, 1/100) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX

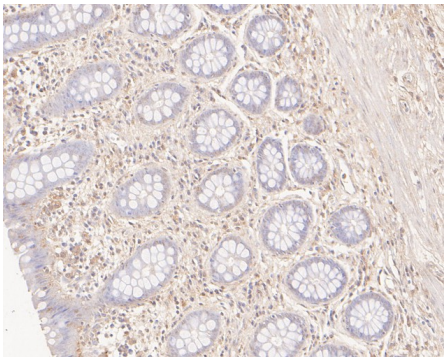

Fig4: Immunohistochemical analysis of paraffin-embedded human colon tissue using anti-GBP2 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER2001-12, 1/100) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX

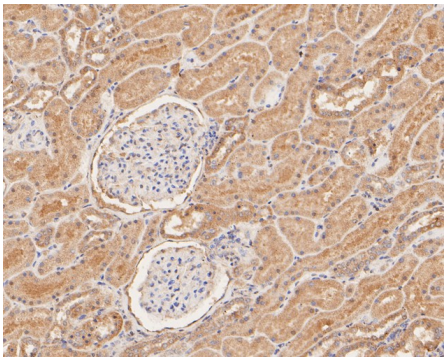

Fig5: Immunohistochemical analysis of paraffin-embedded human kidney tissue using anti-GBP2 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 20 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER2001-12, 1/100) for 30 minutes at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

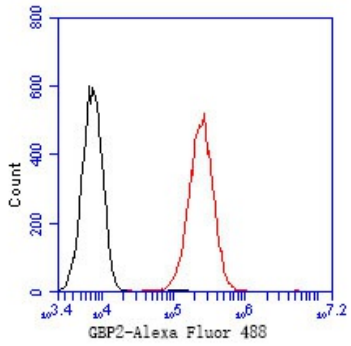

Fig6: Flow cytometric analysis of GBP2 was done on A549 cells. The cells were fixed, permeabilized and stained with the primary antibody (ER2001-12, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit IgG Secondary antibody at 1/1000 dilution for 30 minutes. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Zhang GM. et. al. Associations of GBP2 gene copy number variations with growth traits and transcriptional expression in Chinese cattle. Gene. 2018 Mar
2. Miao Q. et. al. Up-regulation of GBP2 is Associated with Neuronal Apoptosis in Rat Brain Cortex Following Traumatic Brain Injury. Neurochem Res. 2017 May