Anti-GATA3 Antibody

ER1901-20

Product Type:	Rabbit polyclonal IgG, primary antibodies
Species reactivity:	Human, Rat
Applications:	WB, IF-Cell, IHC-P, FC
Molecular Wt:	Predicted band size: 48 kDa

Description: GATA3 is a transcription factor that in humans is encoded by the GATA3 gene. Studies in animal models and humans indicate that it controls the expression of a wide range of biologically and clinically important genes. The GATA3 transcription factor is critical for the embryonic development of various tissues as well as for inflammatory and humoral immune responses and the proper functioning of the endothelium of blood vessels. GATA3 haploinsufficiency (i.e. lose of one or the two inherited GATA3 genes) results in a congenital disorder termed the Barakat syndrome. Current clinical and laboratory research is focusing on determining the benefits of directly or indirectly blocking the action of GATA3 in inflammatory and allergic diseases such as asthma. It is also proposed to be a clinically important marker for various types of cancer, particularly those of the breast. However, the role, if any, of GATA3 in the development of these cancers is under study and remains unclear.

Immunogen: Synthetic peptide within N-terminal human GATA3.

Positive control: MCF-7 cell lysates, MCF-7, rat bladder tissue.

Subcellular location: Nucleus.

Database links: SwissProt: P23771 Human
Entrez Gene: 85471 Rat

Recommended Dilutions:

WB	1:500-1:1000
IF-Cell	1:50-1:200
IHC-P	1:50-1:200
FC	1:50-1:100

Storage Buffer: 1*PBS (pH7.4), 0.2% BSA, 50% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Immunogen affinity purified.

Images

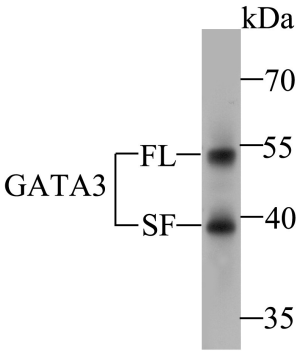

Fig1: Western blot analysis of GATA3 on MCF-7 cell lysate. Proteins were transferred to a PVDF membrane and blocked with 5% BSA in PBS for 1 hour at room temperature. The primary antibody (ER1901-20, 1/500) was used in 5% BSA at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:5,000 dilution was used for 1 hour at room temperature.
Specific bands were detected for GATA3 full length (FL) at approximately 52 kDa and the splice form (SF) at approximately 39 kDa (as indicated).

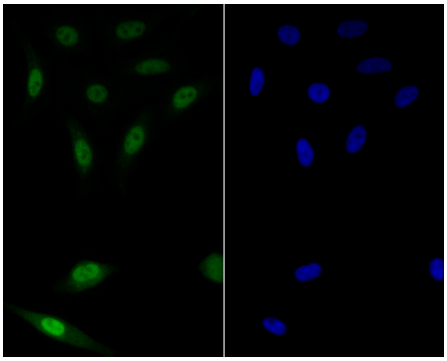

Fig2: ICC staining of GATA3 in MCF-7 cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ER1901-20, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

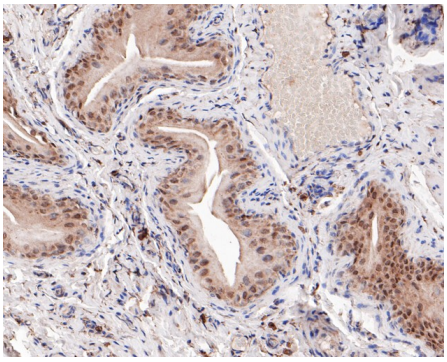

Fig3: Immunohistochemical analysis of paraffin-embedded rat bladder tissue using anti-GATA3 antibody. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (ER1901-20, 1/200) 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.

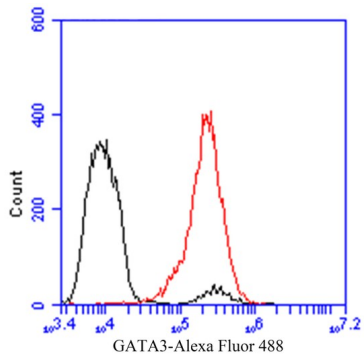

Fig4: Flow cytometric analysis of GATA3 was done on MCF-7 cells. The cells were fixed, permeabilized and stained with the primary antibody (ER1901-20, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit 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. Lin MC et al. GATA3 interacts with and stabilizes HIF-1α to enhance cancer cell invasiveness. Oncogene 36(30):4243-4252 (2017).
2. Sasaki T et al. Genome-wide gene expression profiling revealed a critical role for GATA3 in the maintenance of the Th2 cell identity. PLoS ONE 8:E66468-E66468 (2013).