Anti-c-Fos Antibody [PSH07-51]

HA722839

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IHC-P, IF-Cell, ChIP, WB, IHC-Fr, IF-Tissue
Molecular Wt:	Predicted band size: 41 kDa
Clone number:	PSH07-51

Description: Protein c-Fos is a proto-oncogene that is the human homolog of the retroviral oncogene v-fos. It is encoded in humans by the FOS gene. It was first discovered in rat fibroblasts as the transforming gene of the FBJ MSV (Finkel–Biskis–Jinkins murine osteogenic sarcoma virus). It is a part of a bigger Fos family of transcription factors which includes c-Fos, FosB, Fra-1 and Fra-2. It has been mapped to chromosome region 14q21→q31. c-Fos encodes a 62 kDa protein, which forms heterodimer with c-jun (part of Jun family of transcription factors), resulting in the formation of AP-1 (Activator Protein-1) complex which binds DNA at AP-1 specific sites at the promoter and enhancer regions of target genes and converts extracellular signals into changes of gene expression. It plays an important role in many cellular functions and has been found to be overexpressed in a variety of cancers.

Immunogen: Synthetic peptide within human c-Fos aa 221-270.

Positive control: Human brain tissue, mouse brain tissue, mouse hippocampus tissue, HeLa cells serum starved for 40 hours then add 20% FBS for 2 hours, RAW264.7 cells serum starved for 16 hours then add 20% FBS for 4 hours, C6 cells serum starved for 16 hours then add 10% FBS for 30 minutes, HeLa serum starved for 40 hours then add 20% FBS for 2 hours cell lysate, RAW264.7 serum starved for 16 hours then add 200nM PMA for 4 hours cell lysate, C6 serum starved for 16 hours then add 10% FBS for 30 minutes cell lysate.

Subcellular location: Nucleus, Endoplasmic reticulum, Cytoplasm, cytosol.

Database links: SwissProt: P01100 Human | P01101 Mouse | P12841 Rat

Recommended Dilutions:

IHC-P	1:200-1:1,000
IF-Cell	1:100-1:1,000
ChIP	Use 0.5~2 μg for 25 μg of chromatin.
WB	1:2,000
IHC-Fr	1:500
IF-Tissue	1:500

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

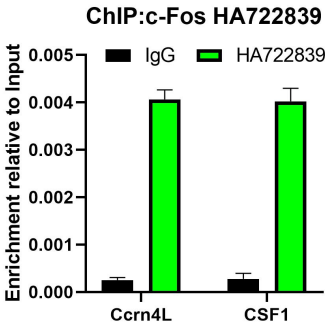

Fig1: Chromatin immunoprecipitations were performed with cross-linked chromatin from HeLa cells serum starved for 40 hours then add 20% FBS for 2 hours and either c-Fos (HA722839) or Normal Rabbit IgG according to the ChIP protocol. The enriched DNA was quantified by real-time PCR using indicated primers. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

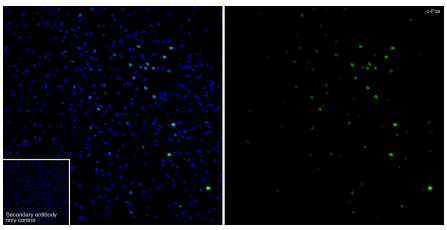

Fig2: Immunofluorescence analysis of frozen mouse cerebral cortex tissue with Rabbit anti-c-Fos antibody (HA722839) at 1/500 dilution.

Important Notice: Antigen retrieval is not required before IHC-Fr staining.

The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722839, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

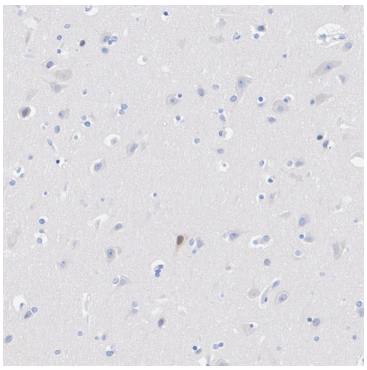

Fig3: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-c-Fos antibody (HA722839) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722839) at 1/200 dilution for 1 hour 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.

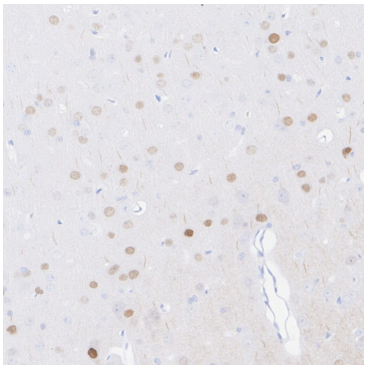

Fig4: Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722839) at 1/1,000 dilution for 1 hour 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.

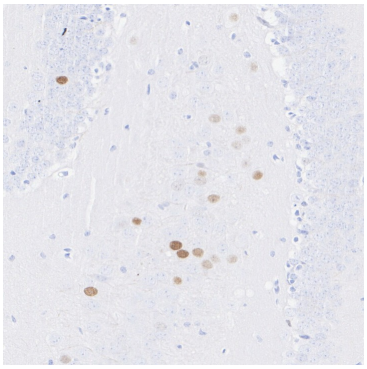

Fig5: Immunohistochemical analysis of paraffin-embedded mouse hippocampus tissue with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA722839) at 1/1,000 dilution for 1 hour 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.

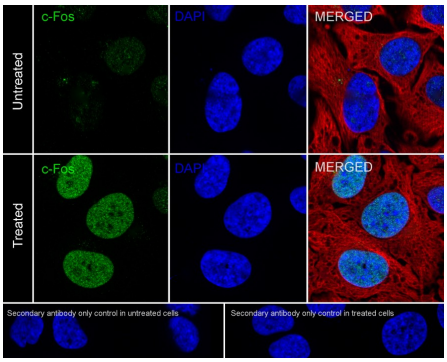

Fig6: Immunocytochemistry analysis of HeLa cells serum starved for 40 hours then add 20% FBS for 2 hours labeling c-Fos with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

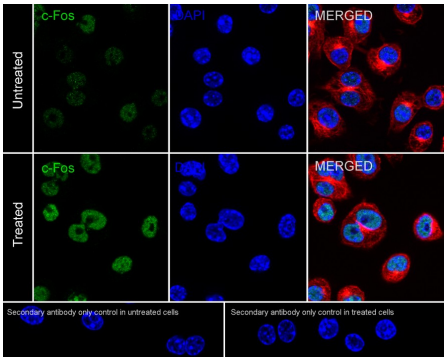

Fig7: Immunocytochemistry analysis of RAW264.7 cells serum starved for 16 hours then add 20% FBS for 4 hours labeling c-Fos with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-c-Fos antibody (HA722839) at 1/1,000 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

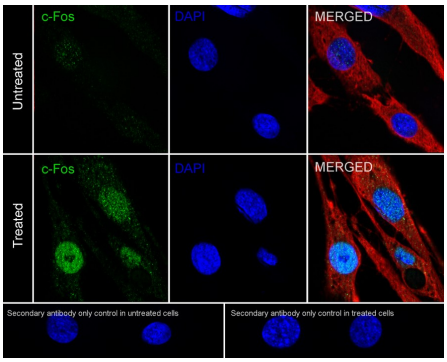

Fig8: Immunocytochemistry analysis of C6 cells serum starved for 16 hours then add 10% FBS for 30 minutes labeling c-Fos with Rabbit anti-c-Fos antibody (HA722839) at 1/100 dilution.

Cells were fixed in 4% paraformaldehyde for 20 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 5 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-c-Fos antibody (HA722839) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI. Beta tubulin (M1305-2, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

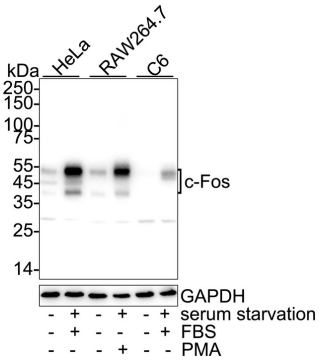

Fig9: Western blot analysis of c-Fos on different lysates with Rabbit anti-c-Fos antibody (HA722839) at 1/2,000 dilution.

Lane 1: HeLa cell lysate
Lane 2: HeLa serum starved for 40 hours then add 20% FBS for 2 hours cell lysate
Lane 3: RAW264.7 cell lysate
Lane 4: RAW264.7 serum starved for 16 hours then add 200nM PMA for 4 hours cell lysate
Lane 5: C6 cell lysate
Lane 6: C6 serum starved for 16 hours then add 10% FBS for 30 minutes cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 41 kDa
Observed band size: 41-55 kDa

Exposure time: 10 seconds; ECL: K1801;

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722839) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

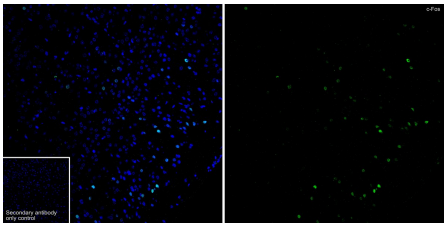

Fig10: Immunofluorescence analysis of paraffin-embedded mouse brain tissue labeling c-Fos with Rabbit anti-c-Fos antibody (HA722839) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722839, green) at 1/500 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Matsuoka K et al. Metabolic rewiring controlled by c-Fos governs cartilage integrity in osteoarthritis. Ann Rheum Dis. 2023 Sep
2. Osada N et al. c-FOS is an integral component of the IKZF1 transactivator complex and mediates lenalidomide resistance in multiple myeloma. Clin Transl Med. 2023 Aug

Applications:WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation