

Anti-ATF4 Antibody [PSH07-08]

HA722796



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IP
Molecular Wt:	Predicted band size: 39 kDa
Clone number:	PSH07-08

Description: Activating transcription factor 4 (tax-responsive enhancer element B67), also known as ATF4, is a protein that in humans is encoded by the ATF4 gene. ATF4 transcription factor is also known to play role in osteoblast differentiation along with RUNX2 and osterix. Terminal osteoblast differentiation, represented by matrix mineralization, is significantly inhibited by the inactivation of JNK. JNK inactivation downregulates expression of ATF-4 and, subsequently, matrix mineralization. IMPACT protein regulates ATF4 in *C. elegans* to promote lifespan. ATF4 is also involved in the cannabinoid Δ^9 -tetrahydrocannabinol-induced apoptosis in cancer cells, by the proapoptotic role of the stress protein p8 via its upregulation of the endoplasmic reticulum stress-related genes ATF4, CHOP, and TRB3.

Immunogen: Recombinant protein within human ATF-4 aa 1-300.

Positive control: HEK-293 treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate, C6 treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate, HeLa treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate, HeLa treated with 250 μ M CoCl₂ for 6 hours cell lysate, NIH/3T3 treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate.

Subcellular location: Nucleus, Nucleus speckle, Cytoplasm, Cell membrane, cytoskeleton, microtubule organizing center, centrosome.

Database links: SwissProt: P18848 Human | Q06507 Mouse | Q9ES19 Rat

Recommended Dilutions:

WB	1:2,000
IP	1-2 μ g/sample

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

Storage Instruction: Shipped at 4 $^{\circ}$ C. Store at +4 $^{\circ}$ C short term (1-2 weeks). Store at -20 $^{\circ}$ C long term.

Purity: Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

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

Images

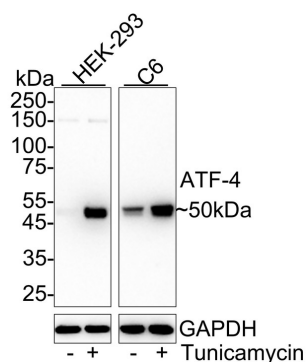


Fig1: Western blot analysis of ATF4 on different lysates with Rabbit anti-ATF4 antibody (HA722796) at 1/2,000 dilution.

Lane 1: HEK-293 cell lysate (20 µg/Lane)

Lane 2: HEK-293 treated with 2µg/mL Tunicamycin for 8 hours cell lysate (20 µg/Lane)

Lane 3: C6 cell lysate (20 µg/Lane)

Lane 4: C6 treated with 2µg/mL Tunicamycin for 8 hours cell lysate (20 µg/Lane)

Predicted band size: 39 kDa

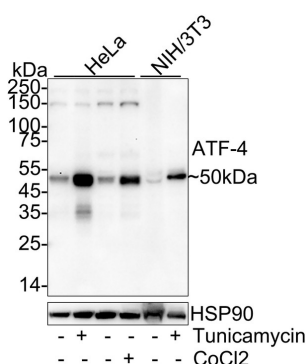
Observed band size: 50 kDa

Exposure time: 2 minutes; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722796) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Western blot analysis of ATF4 on different lysates with Rabbit anti-ATF4 antibody (HA722796) at 1/2,000 dilution.



Lane 1: HeLa cell lysate (20 µg/Lane)

Lane 2: HeLa treated with 2µg/mL Tunicamycin for 8 hours cell lysate (20 µg/Lane)

Lane 3: HeLa cell lysate (20 µg/Lane)

Lane 4: HeLa treated with 250µM CoCl₂ for 6 hours cell lysate (20 µg/Lane)

Lane 5: NIH/3T3 cell lysate (20 µg/Lane)

Lane 6: NIH/3T3 treated with 2µg/mL Tunicamycin for 8 hours cell lysate (20 µg/Lane)

Predicted band size: 39 kDa

Observed band size: 50 kDa

Exposure time: 59 seconds; ECL: K1802;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722796) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

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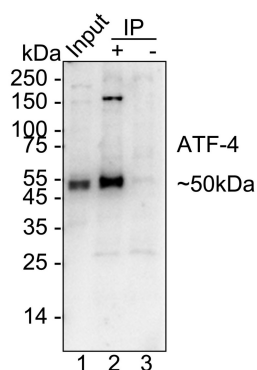


Fig3: ATF4 was immunoprecipitated from 0.2 mg HeLa treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate with HA722796 at 2 μ g/10 μ l beads. Western blot was performed from the immunoprecipitate using HA722796 at 1/1,000 dilution. Anti-Rabbit IgG for IP, AlpSdAbs® VHH(HRP) (025-100-005) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: HeLa treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate (input)

Lane 2: HA722796 IP in HeLa treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate

Lane 3: Rabbit IgG instead of HA722796 in HeLa treated with 2 μ g/mL Tunicamycin for 8 hours cell lysate

Blocking/Dilution buffer: 5% NFDM/TBST

Exposure time: 40 seconds; ECL: K1802

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

Background References

1. He F et al. ATF4 suppresses hepatocarcinogenesis by inducing SLC7A11 (xCT) to block stress-related ferroptosis. J Hepatol. 2023 Aug
2. Xiao Y et al. Advances in the roles of ATF4 in osteoporosis. Biomed Pharmacother. 2023 Dec

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