

Purified anti-ATF6 Antibody

Catalog# / Size	853101 / 25 µg 853102 / 100 µg
Clone	W17028A
Regulatory Status	RUO
Other Names	Cyclic AMP-dependent transcription factor ATF-6 alpha, ATF-6 alpha, Activating transcription factor 6 alpha, ATF6-alpha
Isotype	Rat IgG2a, κ
Description	ATF6 encodes a transcription factor that is anchored in the endoplasmic reticulum (ER) and activated during the unfolded protein response (UPR) to protect cells from ER stress. Under conditions of ER stress, ATF6 is transported from the ER to the Golgi apparatus, where it is cleaved by Golgi-resident proteases to release the cytosolic DNA-binding portion. Then the processed ATF6 moves to the nucleus to activate gene expression. Deletion of the isoform activating transcription factor 6α (ATF6α) and its paralog ATF6β results in embryonic lethality and notochord dysgenesis in nonhuman vertebrates, and loss-of-function mutations in ATF6α are associated with malformed neuroretina and congenital vision loss in humans. Altered ATF6 function in neurodegenerative disorders such as Parkinson's disease has been observed.

Product Details

Verified Reactivity	Human
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Human ATF6α recombinant protein (1-250 a.a.) expressed in E. coli.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	WB - Quality tested ICC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by Western blotting . For Western blotting, the suggested use of this reagent is 0.5 - 5.0 µg per ml. For immunocytochemistry, a concentration range of 5.0 - 10.0 µg/ml is recommended. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody specifically recognizes ATF6a but not ATF6β, verified by WB.
Product Citations	<ol style="list-style-type: none">Domenger A, <i>et al.</i> 2022. EMBO Mol Med. 14:e14740. PubMedChaudhary P, <i>et al.</i> 2021. J Cell Biochem. 122:1886. PubMedRinaldi R, <i>et al.</i> 2021. Cells. 10:. PubMedShi J, <i>et al.</i> 2022. J Virol. 96:e0169521. PubMedLu IT, <i>et al.</i> 2022. Mar Drugs. 20:. PubMed
RRID	AB_2728605 (BioLegend Cat. No. 853101) AB_2728606 (BioLegend Cat. No. 853102)

Antigen Details

Structure	ATF6α is a 670 amino acid protein with a molecular weight mass of ~80 kD.
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Distribution	Tissue distribution: ATF6 is ubiquitously expressed in numerous cell types including cells in of the central nervous system (CNS). Cellular distribution: Cytoplasmic, nucleus, ER, and golgi apparatus.
Function	ATF6 is a transmembrane glycoprotein that functions as a transcription activator and initiates the unfolded protein response during ER stress.
Interaction	ATF6 interacts with ER chaperone immunoglobulin-binding protein (BiP), and can be cleaved by luminal site 1 protease (S1P) and intra-membrane site 2 protease (S2P).
Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Neuroscience Cell Markers, Protein Trafficking and Clearance, Transcription Factors
Molecular Family	Endoplasmic Reticulum Markers
Antigen References	<ol style="list-style-type: none"> 1. Shen J, <i>et al.</i> 2002. <i>Dev Cell.</i> 3:99-111 2. Ron D and Walter P. 2007. <i>Nat Rev Mol Cell Biol.</i> 8: 519-529 3. Credle JJ, <i>et al.</i> 2015. <i>Neurobiol Dis.</i> 76: 112-125 4. Jin JK, <i>et al.</i> 2017. <i>Circ Res.</i> 120: 862-875 5. Kroeger H, <i>et al.</i> 2018. <i>Sci Signal.</i> 11: 5785
Gene ID	22926

Related Protocols

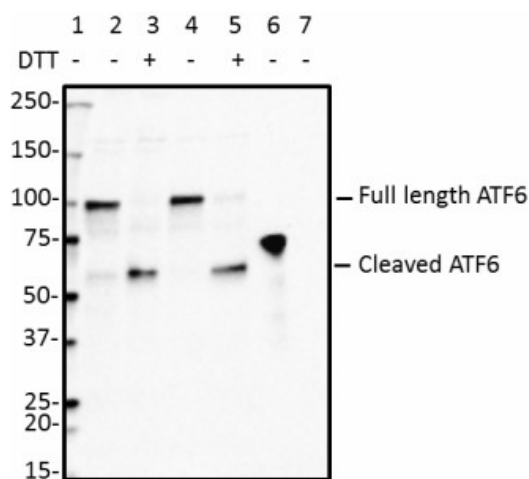
[Immunocytochemistry Staining Protocol](#)

[Western Blotting Protocol](#)

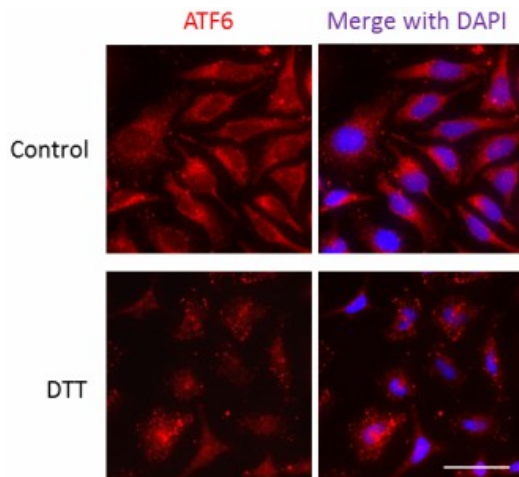
Other Formats

Purified anti-ATF6

Product Data



Western blot of anti-ATF6 antibody (clone W17028A). Lane 1: Molecular weight marker; Lane 2: 20 µg of Hela cell lysate; Lane 3: 20 µg of lysate from Hela cells treated with 4 mM DTT for 2 hours; Lane 4: 20 µg of SH-SY5Y cell lysate; Lane 5: 20 µg of lysate from SH-SY5Y cells treated with 4 mM DTT for 2 hours; Lane 6: 1 ng of His-tagged human ATF6 α; Lane 7: 1 ng of His-tagged human ATF6 β. The blot was incubated with 0.5 µg/mL of the primary antibody overnight at 4°C, followed by incubation with HRP-labeled goat anti-Rat IgG (Cat. No. 405405). Enhanced chemiluminescence was used as the detection system.



ICC staining of anti-ATF6 antibody (clone W17028A) on HeLa cells. The cells were treated with (bottom) or without (top) 4 mM DTT for 2 hours, fixed with 4% PFA, permeabilized with a buffer containing 0.1% Triton X-100 and 0.25% BSA, and blocked with 2% normal goat serum and 0.02% BSA. The cells were then incubated with 5 µg/ml of the primary antibody overnight at 4°C, followed by incubation with 5 µg/ml of Alexa Fluor® 594 goat anti-Rat IgG (Cat. No. 405422) for one hour at room temperature. Nuclei were counterstained with DAPI. The images were captured with a 40X objective. Scale bar: 50 µm

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