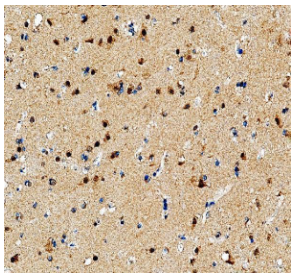
BMAL1 Antibody / Circadian Clock Protein Antibody (RQ5563)

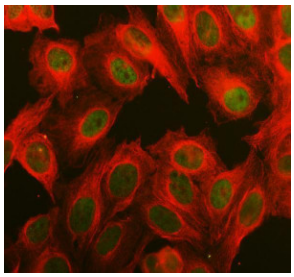
Catalog No.	Formulation	Size
RQ5563	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	O00327
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Direct ELISA: 0.1-0.5ug/ml
Limitations	This BMAL1 Antibody / Circadian Clock Protein Antibody is available for research use only.



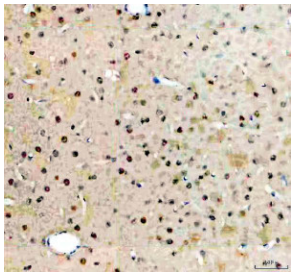
BMAL1 Antibody Human Brain IHC. Immunohistochemical analysis of BMAL1 Antibody / Circadian Clock Protein Antibody in FFPE human brain tissue following heat-induced antigen retrieval in pH 8 EDTA buffer. The section was incubated with BMAL1 antibody at 2 ug/ml and detected using an HRP-conjugated secondary antibody with DAB chromogen. Positive staining is observed in neurons, consistent with BMAL1 expression in the central nervous system. This BMAL1 Antibody, a circadian clock protein antibody, is suitable for investigating circadian rhythm regulation, transcriptional control and brain physiology.



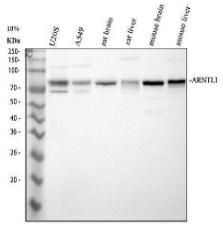
BMAL1 Antibody U2OS Cell IF. Immunofluorescence analysis of BMAL1 Antibody / Circadian Clock Protein Antibody in U2OS cells following enzyme antigen retrieval. BMAL1 was detected with a Fluoro488-conjugated secondary antibody (green), while Alpha Tubulin was co-stained with a Cy3-conjugated secondary antibody (red) to visualize the cytoskeleton. BMAL1 staining is predominantly nuclear, consistent with its role as a circadian transcription factor. This BMAL1 Antibody, a circadian clock protein antibody, is suitable for investigating circadian rhythm regulation, transcriptional control and protein localization.



BMAL1 Antibody Mouse Brain IHC. Immunohistochemical analysis of BMAL1 Antibody / Circadian Clock Protein Antibody in FFPE mouse brain tissue following heat-induced antigen retrieval in pH 8 EDTA buffer. The section was incubated with BMAL1 antibody at 2 ug/ml and detected using an HRP-conjugated secondary antibody with DAB chromogen. Positive nuclear staining is observed in neurons of the hippocampal region, consistent with the transcription factor function of BMAL1. This BMAL1 Antibody, a circadian clock protein antibody, is suitable for investigating circadian rhythm regulation, transcriptional control and neuronal physiology.



BMAL1 Antibody Rat Brain IHC. Immunohistochemical analysis of BMAL1 Antibody / Circadian Clock Protein Antibody in FFPE rat brain tissue following heat-induced antigen retrieval in pH 8 EDTA buffer. The section was incubated with BMAL1 antibody at 2 ug/ml and detected using an HRP-conjugated secondary antibody with DAB chromogen. Positive nuclear staining is observed in brain cells, consistent with the transcription factor activity of BMAL1. This BMAL1 Antibody, a circadian clock protein antibody, is suitable for investigating circadian rhythm regulation, transcriptional control and central nervous system biology.



BMAL1 Antibody Human, Rat and Mouse WB. Western blot analysis of BMAL1 Antibody / Circadian Clock Protein Antibody detected a major band at approximately 75 kDa, consistent with the expected migration of BMAL1 (predicted molecular weight approximately 69 kDa). Lane 1: human U2OS; Lane 2: human A549; Lane 3: rat brain; Lane 4: rat liver; Lane 5: mouse brain; Lane 6: mouse liver lysate. The membrane was incubated with BMAL1 antibody at 0.5 ug/ml followed by an HRP-conjugated secondary antibody. This BMAL1 Antibody, a circadian clock protein antibody, detects endogenous BMAL1 across human, rat and mouse samples for studies of circadian rhythm regulation and transcriptional control.

Description

BMAL1 Antibody / Circadian Clock Protein Antibody recognizes Brain and Muscle ARNT-Like 1 (BMAL1), a basic helix-loop-helix PAS domain-containing transcription factor that serves as a master regulator of the mammalian circadian clock. BMAL1 forms a heterodimer with CLOCK to drive rhythmic transcription of numerous clock-controlled genes, thereby coordinating daily oscillations in metabolism, hormone secretion, immune responses and behavior. Through this central role, BMAL1 helps synchronize cellular functions with environmental light-dark cycles and contributes to the maintenance of physiological homeostasis. NSJ Bioreagents offers BMAL1 antibodies for researchers investigating circadian biology, transcriptional regulation and metabolic signaling.

BMAL1 is widely expressed throughout the body and functions as a core component of the molecular clock in both central and peripheral tissues. Its transcriptional activity regulates genes involved in sleep-wake cycles, energy metabolism, cell proliferation, DNA repair and oxidative stress responses. Disruption of BMAL1 expression or circadian timing has been associated with metabolic disorders, cardiovascular disease, neurodegeneration, inflammation and cancer. Because circadian regulation influences numerous physiological systems, BMAL1 has become an important target for studies of aging, tissue homeostasis and chronobiology.

Current research examines how BMAL1 coordinates rhythmic gene expression through interactions with CLOCK, CRY and PER proteins, as well as additional transcriptional regulators and signaling pathways. Investigators also explore how altered BMAL1 activity affects stem cell maintenance, immune cell function and responses to environmental stress. Measuring BMAL1 expression can provide valuable insight into circadian clock regulation, disease mechanisms and therapeutic approaches that target biological timing or metabolic pathways.

An BMAL1 Antibody is a valuable reagent for detecting this circadian clock protein by Western blotting, immunohistochemistry, immunofluorescence, flow cytometry and related immunoassays. By enabling reliable analysis of protein expression and cellular localization, an BMAL1 Antibody supports investigations into circadian rhythm regulation, transcriptional control and clock-dependent physiology.

Researchers studying circadian gene regulation may also be interested in our Transcription Factor Antibodies page, featuring antibodies against transcriptional regulators involved in development, metabolism, cell signaling and gene expression.

Application Notes

Optimal dilution of the BMAL1 Antibody / Circadian Clock Protein Antibody should be determined by the researcher.

Immunogen

A human recombinant protein (amino acids R116-E447) was used as the immunogen for the BMAL1 antibody.

Storage

After reconstitution, the BMAL1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

BMAL1 antibody, ARNTL antibody, Brain and Muscle ARNT-Like 1 antibody, Aryl Hydrocarbon Receptor Nuclear Translocator Like antibody, Class E Basic Helix-Loop-Helix Protein 5 antibody, BHLHE5 antibody, MOP3 antibody, JAP3 antibody, PASD3 antibody

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