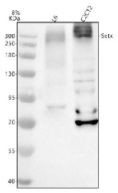
SETX Antibody / Senataxin (FY12819)

Catalog No.	Formulation	Size
FY12819	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	A2AKX3
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This SETX antibody is available for research use only.



Western blot analysis of SETX using anti-SETX antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat L6 whole cell lysates, Lane 2: mouse C2C12 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SETX antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A band is observed near ~300 kDa together with higher-molecular-weight species forming a ladder. These upper bands are consistent with poly-ubiquitinated/SUMO-modified or complexed forms of SETX, which are well documented for this large nuclear helicase involved in R-loop control.

Description

SETX antibody detects Senataxin, a nuclear RNA/DNA helicase involved in transcription termination, RNA processing,

and DNA damage repair. Encoded by the SETX gene on chromosome 9q34.13, this large helicase contains a conserved C-terminal superfamily 1 (SF1) helicase domain that unwinds RNA/DNA hybrids (R-loops) formed during transcription and replication. By resolving R-loops, SETX maintains genomic stability and coordinates proper transcription termination for RNA polymerase II genes.

Senataxin interacts with transcription termination factors, RNA-processing proteins, and DNA repair complexes to integrate transcriptional and genomic maintenance pathways. It facilitates the repair of transcription-associated DNA damage and supports RNA splicing fidelity by ensuring timely R-loop resolution. SETX localizes to nuclear foci associated with active transcription sites and DNA damage response regions.

The SETX antibody is widely used in molecular genetics, neurobiology, and genome stability research to study helicase activity, R-loop metabolism, and transcriptional control. Western blot analysis identifies a 303 kilodalton band corresponding to Senataxin, while immunofluorescence reveals discrete nuclear foci marking transcriptionally active chromatin. This antibody supports investigations into RNA-DNA hybrid regulation and the prevention of replication stress.

Mutations in SETX cause neurological disorders such as ataxia with oculomotor apraxia type 2 (AOA2) and amyotrophic lateral sclerosis type 4 (ALS4), highlighting its role in maintaining neuronal integrity. Dysfunctional Senataxin results in R-loop accumulation, transcriptional stress, and DNA strand breaks. The SETX antibody provides a reliable reagent for exploring the links between transcription, RNA metabolism, and neurodegeneration. NSJ Bioreagents supplies this antibody validated for its applications, ensuring reproducible detection in genome maintenance studies.

Application Notes

Optimal dilution of the SETX antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse SETX recombinant protein (Position: S28-R2447) was used as the immunogen for the SETX antibody.

Storage

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

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