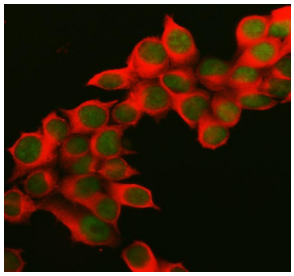
MEPCE Antibody / 7SK snRNA methylphosphate capping enzyme (FY13154)

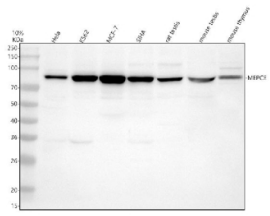
Catalog No.	Formulation	Size
FY13154	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

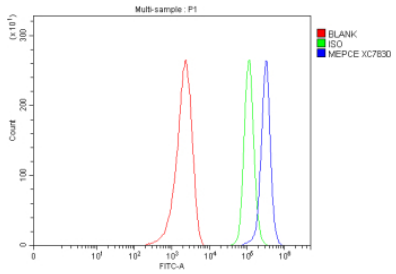
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q7L2J0
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This MEPCE antibody is available for research use only.



Immunofluorescent staining of MEPCE using anti-MEPCE antibody (green) and anti-Beta Tubulin antibody (red). MEPCE was detected in an immunocytochemical section of MCF-7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-MEPCE antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of MEPCE using anti-MEPCE antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human SIHA whole cell lysates, Lane 5: rat testis tissue lysates, Lane 6: mouse testis tissue lysates, Lane 7: mouse thymus tissue 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-MEPCE 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 specific band was detected for MEPCE at approximately 74 kDa. The expected molecular weight of MEPCE is ~74 kDa.



Flow Cytometry analysis of MCF-7 cells using anti-MEPCE antibody. Overlay histogram showing MCF-7 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-MEPCE antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

MEPCE antibody detects 7SK snRNA methylphosphate capping enzyme, a nuclear RNA methyltransferase that stabilizes 7SK small nuclear RNA and regulates transcription elongation. The UniProt recommended name is 7SK snRNA methylphosphate capping enzyme (MEPCE). This enzyme catalyzes the methylation of the 5? gamma-phosphate of 7SK snRNA, forming a protective cap structure critical for RNA stability.

Functionally, MEPCE antibody identifies a 689-amino-acid enzyme that binds to 7SK snRNA within the 7SK ribonucleoprotein complex. MEPCE cooperates with LARP7 and HEXIM1 to maintain repression of positive transcription elongation factor b (P-TEFb), thereby controlling RNA polymerase II elongation and global transcriptional output. It serves as a key regulator of gene expression homeostasis.

The MEPCE gene is located on chromosome 7q22.3 and is ubiquitously expressed, with enrichment in transcriptionally active tissues such as brain, liver, and gonads. MEPCE function is essential for normal development and maintenance of chromatin transcription dynamics.

Pathologically, mutations or reduced expression of MEPCE cause neurodevelopmental disorders characterized by intellectual disability and seizures. Disruption of 7SK complex stability leads to uncontrolled transcription elongation and altered gene expression. Research using MEPCE antibody supports studies in RNA biology, transcription regulation, and neurological disease mechanisms.

MEPCE antibody is validated for western blotting, immunoprecipitation, and immunofluorescence to detect RNA methyltransferases and transcriptional regulators. NSJ Bioreagents provides MEPCE antibody reagents optimized for research in RNA processing, chromatin regulation, and transcription control.

Structurally, 7SK snRNA methylphosphate capping enzyme contains a conserved methyltransferase domain that binds S-adenosylmethionine and the 7SK RNA substrate. This antibody facilitates investigation of MEPCE's enzymatic role in transcriptional repression and RNA stability.

Application Notes

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

Immunogen

E.coli-derived human MEPCE recombinant protein (Position: G79-L651) was used as the immunogen for the MEPCE antibody.

Storage

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