AsnRS (A-1): sc-271058

BACKGROUND
AsnRS (cytoplasmic asparaginyl-tRNA synthetase, asparagine-tRNA ligase) is a cytoplasmic protein encoded by the human gene NARS. AsnRS belongs to the class-II aminoacyl-tRNA synthetase family. Aminoacyl tRNA synthetases (aaRS) are enzymes that catalyze the esterification of a specific amino acid or its precursor to its compatible cognate tRNA to form an aminoacyl-tRNA. The synthetase first binds ATP and the corresponding amino acid or its precursor to form an aminoacyl-adenylate and release inorganic pyrophosphate (PPi). The adenylate-aaRS complex then binds the appropriate tRNA molecule, and the amino acid is transferred from the aa-AMP to either the 2’- or 3’-OH of the last tRNA base (A76) at the 3’-end. Some synthetases also mediate a proof-reading reaction to ensure high fidelity of tRNA charging; if the tRNA is found to be improperly charged, the aminoacyl-tRNA bond is hydrolyzed. AsnRS acts to attach Asparagine residues to its cognate tRNA. AsnRS autoantibodies have a strong association with interstitial lung disease (ILD) and may be associated with the DR2 phenotype. In bacteria that lack AsnRS, AspRS (aspartyl-tRNA synthetase) acts to generate both Asp-tRNA (Asp) and the noncanonical, misacylated Asp-tRNA (Asn-tRNA).

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: NARS (human) mapping to 18q21.31; Nars (mouse) mapping to 18 E1.

SOURCE
AsnRS (A-1) is a mouse monoclonal antibody raised against amino acids 1-289 mapping at the N-terminus of AsnRS of human origin.

PRODUCT
Each vial contains 200 µg IgG, kappa light chain in 1.0 ml of PBS with <0.1% sodium azide and 0.1% gelatin.

APPLICATIONS
AsnRS (A-1) is recommended for detection of AsnRS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SUPPORT REAGENTS
To ensure optimal results, the following support reagents are recommended:

DATA

STORAGE
Store at 4° C. **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE
For research use only, not for use in diagnostic procedures.

PROTOCOLS
See our web site at www.scbt.com for detailed protocols and support products.