**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 Asp-Gln 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 IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**STORAGE**

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

**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).


Molecular Weight of AsnRS: 63 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

![Western Blot Analysis of AsnRS](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAAAgAAAAAQCAYAAAAf8/9hAAAACXBIQAAABIAAAAgAAAgAAAAAQAAAAEAAQAAAABJRU5ErkJggg==)

**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.