Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. Class II tRNA synthases are a highly conserved subfamily of tRNA synthetases that have a catalytic domain through which they interact with the amino acid acceptor of the tRNA and a second domain through which they interact with the rest of the tRNA molecule. AlaRS (alanyl-tRNA synthetase), also known as AARS, is a 968 amino acid cytoplasmic protein that belongs to the class II subfamily of tRNA synthetases. Functioning as a monomer, AlaRS catalyzes the ATP-dependent attachment of alanine to a corresponding tRNA(Ala), thereby producing alanyl-tRNA(Ala). Defects in the gene encoding AlaRS may lead to an accumulation of misfolded proteins within the cell, ultimately leading to cell death.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: AARS (human) mapping to 16q22.1; Aars (mouse) mapping to 8 E1.

SOURCE
AlaRS (M6-P2E5) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 956-985 of AlaRS of human origin.

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

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

APPLICATIONS
AlaRS (M6-P2E5) is recommended for detection of AlaRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Molecular Weight of AlaRS: 107 kDa.
Positive Controls: AlaRS (h): 293T Lysate: sc-159852, MCF7 whole cell lysate: sc-2206 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SUPPORT REAGENTS
To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM or m-IgGκ 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).

DATA

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

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