

IleRS (H-219): sc-99148

BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. Accurate discrimination of the structurally similar amino acids valine and isoleucine by isoleucyl-tRNA synthetase (IleRS) results, in part, from a hydrolytic editing reaction, which prevents misactivated valine from being stably joined to tRNA^{Ile}. IleRS joins Ile to tRNA(Ile) at its synthetic active site and hydrolyzes incorrectly acylated amino acids at its editing active site. A member of the aminoacyl-tRNA synthetase family, human IleRS has been identified as a target of antibodies in the autoimmune disease polymyositis.

REFERENCES

- Nichols, R.C., Raben, N., Boerkoel, C.F. and Plotz, P.H. 1995. Human isoleucyl-tRNA synthetase: sequence of the cDNA, alternative mRNA splicing, and the characteristics of an unusually long C-terminal. *Gene* 155: 299-304.
- Nordin, B.E. and Schimmel, P. 1999. RNA determinants for translational editing. Mischarging a minihelix substrate by a tRNA synthetase. *J. Biol. Chem.* 274: 6835-6838.

CHROMOSOMAL LOCATION

Genetic locus: IARS (human) mapping to 9q22.31; lars (mouse) mapping to 13 A5.

SOURCE

IleRS (H-219) is a rabbit polyclonal antibody raised against amino acids 781-999 mapping within an internal region of IleRS of human origin.

PRODUCT

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

APPLICATIONS

IleRS (H-219) is recommended for detection of IleRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

IleRS (H-219) is also recommended for detection of IleRS in additional species, including equine, canine and bovine.

Suitable for use as control antibody for IleRS siRNA (h): sc-45473, IleRS siRNA (m): sc-45474, IleRS shRNA Plasmid (h): sc-45473-SH, IleRS shRNA Plasmid (m): sc-45474-SH, IleRS shRNA (h) Lentiviral Particles: sc-45473-V and IleRS shRNA (m) Lentiviral Particles: sc-45474-V.

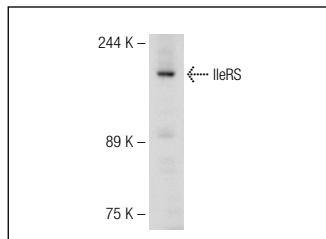
Molecular Weight of IleRS: 145 kDa.

Positive Controls: Ramos cell lysate: sc-2216.

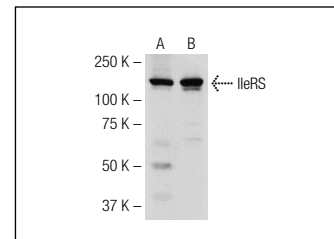
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IleRS (H-219): sc-99148. Western blot analysis of IleRS expression in Ramos whole cell lysate.



IleRS (H-219): sc-99148. Western blot analysis of IleRS expression in Caki-1 (A) and HeLa (B) whole cell lysates.

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 or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **IleRS (D-9): sc-271826**, our highly recommended monoclonal alternative to IleRS (H-219).