

# HisRS (N-14): sc-26881

## BACKGROUND

Histidyl-tRNA synthetase (HisRS, Jo-1) is an aminoacyl-tRNA synthetase that charges transfer RNAs (tRNAs) with a cognate histidine residue to produce histidyl-tRNA. Histidyl-tRNA is essential for the incorporation of histidine into proteins. Systemic autoimmune diseases lead to aminoacyl-tRNA synthetase autoantibodies that are directed against self structures. HisRS is an antigen in systemic autoimmune diseases such as rheumatic arthritis or polymyositis with associated interstitial lung disease, thrombocytopenia and Raynaud's phenomenon (vasospastic attacks that cause blood vessels to constrict). HisRS autoantibodies are unlike anti-synthetase antibodies because they bind the nonlinear, exposed epitopes on native HisRS when the enzyme is complexed to tRNA(His).

## REFERENCES

1. Miller, F.W., Waite, K.A., Biswas, T. and Plotz, P.H. 1990. The role of an autoantigen, histidyl-tRNA synthetase, in the induction and maintenance of autoimmunity. *Proc. Natl. Acad. Sci. USA* 87: 9933-9937.
2. Freist, W., Verhey, J.F., Ruhlmann, A., Gauss, D.H. and Arnez, J.G. 1999. Histidyl-tRNA synthetase. *Biol. Chem.* 380: 623-646.
3. Baron, F., Ribbens, C., Kaye, O., Fillet, G., Malaise, M. and Beguin, Y. 2000. Effective treatment of Jo-1-associated polymyositis with T-cell-depleted autologous peripheral blood stem cell transplantation. *Br. J. Haematol.* 110: 339-342.
4. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 227400. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. LocusLink Report (LocusID: 2243). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: HARS (human) mapping to 5q31.3; Hars (mouse) mapping to 18 B3.

## SOURCE

HisRS (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HisRS 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.

Blocking peptide available for competition studies, sc-26881 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

HisRS (N-14) is recommended for detection of HisRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for HisRS siRNA (h): sc-37675, HisRS siRNA (m): sc-37676, HisRS shRNA Plasmid (h): sc-37675-SH, HisRS shRNA Plasmid (m): sc-37676-SH, HisRS shRNA (h) Lentiviral Particles: sc-37675-V and HisRS shRNA (m) Lentiviral Particles: sc-37676-V.

Molecular Weight of HisRS: 54 kDa.

Positive Controls: Sol8 cell lysate: sc-2249.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



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Try **HisRS (HARSA6): sc-81287**, our highly recommended monoclonal alternative to HisRS (N-14).