

HisRS (HARSA6): sc-81287

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™. 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 B2.

SOURCE

HisRS (HARSA6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to the N-terminal region of HisRS of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% BSA.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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

APPLICATIONS

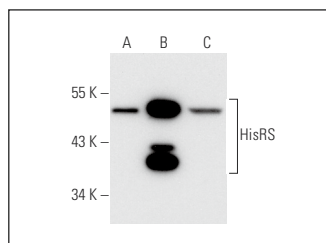
HisRS (HARSA6) is recommended for detection of HisRS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

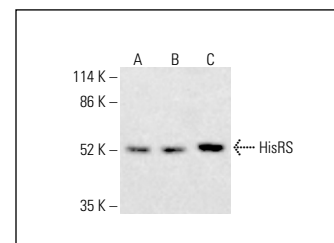
Molecular Weight of HisRS: 54 kDa.

Positive Controls: HisRS (m): 293T Lysate: sc-120790, HeLa whole cell lysate: sc-2200 or Sol8 cell lysate: sc-2249.

DATA



HisRS (HARSA6): sc-81287. Western blot analysis of HisRS expression in non-transfected 293T: sc-117752 (A), mouse HisRS transfected 293T: sc-120790 (B) and Sol8 (C) whole cell lysates.



HisRS (HARSA6): sc-81287. Western blot analysis of HisRS expression in HeLa (A), K-562 (B) and HCT-116 (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Yang, M., Haase, C., Viljanen, J., Xu, B., Ge, C., Kihlberg, J. and Holmdahl, R. 2017. Cutting edge: processing of oxidized peptides in macrophages regulates T cell activation and development of autoimmune arthritis. *J. Immunol.* 199: 3937-3942.

PROTOCOLS

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