

ValRS (H-203): sc-98545

BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. ValRS (valyl-tRNA synthetase), also known as Protein G7a, belongs to the class-I aminoacyl-tRNA synthetase family that includes the related proteins, LeuRS and IleRS. These proteins are large monomeric proteins and play a major role in catalyzing the aminoacylation of tRNA by their cognate amino acid. ValRS joins Val to tRNA(Val) at its synthetic active site. At its CP1 editing active site, ValRS hydrolyzes or deacylates tRNA(Thr) that is incorrectly joined to Val. ValRS forms aggregates with EF-1 (elongation factor 1) and, via this complex, catalyzes the aminoacylation of tRNA and its transfer to EF-1. In addition, ValRS may be regulated by PKC-dependent phosphorylation.

REFERENCES

- Christ, D. and Winter, G. 2003. Identification of functional similarities between proteins using directed evolution. *Proc. Natl. Acad. Sci. USA* 100: 13202-13206.
- Nordin, B.E. and Schimmel, P. 2003. Transiently misacylated tRNA is a primer for editing of misactivated adenylates by class I aminoacyl-tRNA synthetases. *Biochemistry* 42: 12989-12997.

CHROMOSOMAL LOCATION

Genetic locus: VARS (human) mapping to 6p21.33; Vars (mouse) mapping to 17 B1.

SOURCE

ValRS (H-203) is a rabbit polyclonal antibody raised against amino acids 1-203 mapping at the N-terminus of ValRS 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

ValRS (H-203) is recommended for detection of ValRS 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).

ValRS (H-203) is also recommended for detection of ValRS in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ValRS siRNA (h): sc-76887, ValRS siRNA (m): sc-76888, ValRS shRNA Plasmid (h): sc-76887-SH, ValRS shRNA Plasmid (m): sc-76888-SH, ValRS shRNA (h) Lentiviral Particles: sc-76887-V and ValRS shRNA (m) Lentiviral Particles: sc-76888-V.

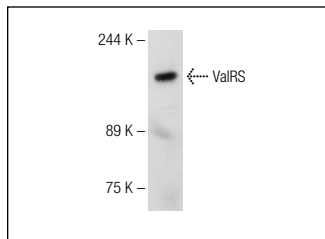
Molecular Weight of ValRS: 140 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or Ramos cell lysate: sc-2216.

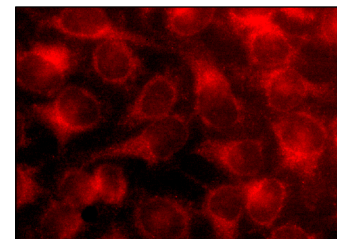
RECOMMENDED SECONDARY REAGENTS

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



ValRS (H-203): sc-98545. Western blot analysis of ValRS expression in HeLa whole cell lysate.



ValRS (H-203): sc-98545. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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 **ValRS (D-7): sc-166674**, our highly recommended monoclonal alternative to ValRS (H-203).