SANTA CRUZ BIOTECHNOLOGY, INC.

ValRS (T-19): sc-324977

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

ValRS (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-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.

Blocking peptide available for competition studies, sc-324977 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.

APPLICATIONS

ValRS (T-19) 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); non cross-reactive with VARS2.

ValRS (T-19) is also recommended for detection of ValRS in additional species, including equine, 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.

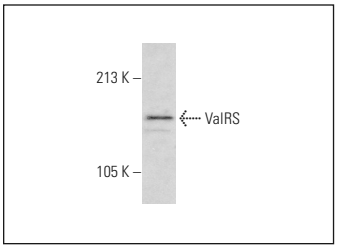
Molecular Weight of ValRS: 140 kDa.

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

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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™ Mounting Medium: sc-24941.

DATA



ValRS (T-19): sc-324977. Western blot analysis of ValRS expression in K-562 whole cell lysate.

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.