SANTA CRUZ BIOTECHNOLOGY, INC.

GlnRS (Y-20): sc-74714

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. GlnRS (glutaminyl-tRNA synthetase), also known as QARS, is a 775 amino acid member of the class I amino-acyl-tRNA synthetase family. Localized to the cytoplasm, GlnRS is part of a multi-protein complex composed of nine aminoacyl-tRNA synthetases that are specific for nine amino acids, namely Arg, Asp, Glu, Gln, Ile, Leu, Lys, Met and Pro. In this complex, GlnRS functions to catalyze the ATP-dependent conversion of L-glutamine (Gln) and $tRNA^{Gln}$ to Gln-$tRNA^{Gln}$. While GlnRS is used to synthesize Gln-$tRNA^{Gln}$ in many eukaryotic cells, prokaryotes and organelles, such as mitochondria and chloroplasts, can synthesize Gln-$tRNA^{Gln}$ in a two step process involving misacylation and amidation reactions.

REFERENCES

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6. Kim, T., et al. 2000. Catalytic peptide of human glutaminyl-tRNA synthetase is essential for its assembly to the aminoacyl-tRNA synthetase complex. J. Biol. Chem. 275: 21768-21772.
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CHROMOSOMAL LOCATION

Genetic locus: QARS (human) mapping to 3p21.31; Qars (mouse) mapping to 9 F2.

RESEARCH USE

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

SOURCE

GlnRS (Y-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GlnRS 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-74714 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GlnRS (Y-20) is recommended for detection of GlnRS 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).

GlnRS (Y-20) is also recommended for detection of GlnRS in additional species, including equine, canine and bovine.

Suitable for use as control antibody for GlnRS siRNA (h): sc-75144, GlnRS siRNA (m): sc-75145, GlnRS shRNA Plasmid (h): sc-75144-SH, GlnRS shRNA Plasmid (m): sc-75145-SH, GlnRS shRNA (h) Lentiviral Particles: sc-75144-V and GlnRS shRNA (m) Lentiviral Particles: sc-75145-V.

Molecular Weight of GlnRS: 88 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

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) 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.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.