SANTA CRUZ BIOTECHNOLOGY, INC.

ThrRS (C-3): sc-166146

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. ThrRS (threonyl-tRNA synthetase), also known as TARS, is a 723 amino acid member of the class-II aminoacyl-tRNA synthetase family that catalyzes the tRNA(Thr)-threonine aminoacylation reaction. Localized to the cytoplasm, ThrRS contains a zinc-binding catalytic domain, a C-terminal tRNA-binding domain and an N-terminal editing domain. ThrRS has four mobile regions, three of which have a key residue that changes conformation throughout catalysis, thereby mediating the dynamics of the tRNA-amino acid reaction. The fourth mobile region contains an ordering loop which helps to close the active site once the substrate (threonine) is in place.

CHROMOSOMAL LOCATION

Genetic locus: TARS (human) mapping to 5p13.3; Tars (mouse) mapping to 15 A1.

SOURCE

ThrRS (C-3) is a mouse monoclonal antibody raised against amino acids 1-98 mapping at the N-terminus of ThrRS of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ThrRS (C-3) is available conjugated to agarose (sc-166146 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166146 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166146 PE), fluorescein (sc-166146 FITC), Alexa Fluor® 488 (sc-166146 AF488), Alexa Fluor® 546 (sc-166146 AF546), Alexa Fluor® 594 (sc-166146 AF594) or Alexa Fluor® 647 (sc-166146 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166146 AF680) or Alexa Fluor® 790 (sc-166146 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ThrRS (C-3) is recommended for detection of ThrRS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 ThrRS siRNA (h): sc-76658, ThrRS siRNA (m): sc-76659, ThrRS shRNA Plasmid (h): sc-76658-SH, ThrRS shRNA Plasmid (m): sc-76659-SH, ThrRS shRNA (h) Lentiviral Particles: sc-76658-V and ThrRS shRNA (m) Lentiviral Particles: sc-76659-V.

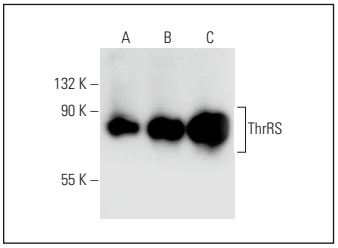
Molecular Weight of ThrRS: 83 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, ThrRS (h): 293T Lysate: sc-113560 or A549 cell lysate: sc-2413.

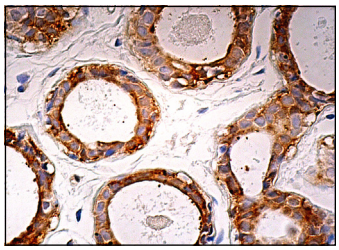
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



ThrRS (C-3): sc-166146. Western blot analysis of ThrRS expression in non-transfected 293T: sc-117752 (**A**), human ThrRS transfected 293T: sc-113560 (**B**) and HeLa (**C**) whole cell lysates.



ThrRS (C-3): sc-166146. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jeong, S.J., et al. 2018. Inhibition of MUC1 biosynthesis via threonyl-tRNA synthetase suppresses pancreatic cancer cell migration. Exp. Mol. Med. 50: e424.
2. Jeong, S.J., et al. 2019. A threonyl-tRNA synthetase-mediated translation initiation machinery. Nat. Commun. 10: 1357.

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 for detailed protocols and support products.