SANTA CRUZ BIOTECHNOLOGY, INC.

MetRS (H-1): sc-166850

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

MetRS is a cytoplasmic methionyl-tRNA synthetase. It belongs to the class-I aminoacyl-tRNA synthetase family and contains one GST-like domain and one WHEP-TRS domain. MetRS is an enzyme that catalyzes the esterification of a Met residue to its compatible cognate tRNA to form Met-tRNA. This enzyme performs its functions with high precision by synchronously recognizing the anticodon region and the aminoacylation region, which are separated by approximately 70 angstroms in space. MetRS is thereby considered allosteric, in that its trinucleotide anticodons bind the enzyme at a site removed from its catalytic domains.

REFERENCES

1. Lage, H. and Dietel, M. 1996. Cloning of a human cDNA encoding a protein with high homology to yeast methionyl-tRNA synthetase. Gene 178: 187-189.
2. Ko, Y.G., et al. 2000. Nucleolar localization of human methionyl-tRNA synthetase and its role in ribosomal RNA synthesis. J. Cell Biol. 149: 567-574.
3. Kaminska, M., et al. 2001. The appended C-domain of human methionyl-tRNA synthetase has a tRNA-sequestering function. Biochemistry 40: 14309-14316.
4. Pacher, M., et al. 2006. Impact of constitutive IGF-I/IGF-II stimulation on the transcriptional program of human breast cancer cells. Carcinogenesis 28: 49-59.
5. Zimny, J., et al. 2006. Protective mechanisms against homocysteine toxicity: the role of bleomycin hydrolase. J. Biol. Chem. 281: 22485-22492.
6. Han, J.M., et al. 2006. Hierarchical network between the components of the multi-tRNA synthetase complex: implications for complex formation. J. Biol. Chem. 281: 38663-38667.

CHROMOSOMAL LOCATION

Genetic locus: MARS (human) mapping to 12q13.3; Mars (mouse) mapping to 10 D3.

SOURCE

MetRS (H-1) is a mouse monoclonal antibody raised against amino acids 121-420 mapping within an internal region of MetRS 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.

MetRS (H-1) is available conjugated to agarose (sc-166850 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166850 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166850 PE), fluorescein (sc-166850 FITC), Alexa Fluor® 488 (sc-166850 AF488), Alexa Fluor® 546 (sc-166850 AF546), Alexa Fluor® 594 (sc-166850 AF594) or Alexa Fluor® 647 (sc-166850 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166850 AF680) or Alexa Fluor® 790 (sc-166850 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MetRS (H-1) is recommended for detection of MetRS 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MetRS siRNA (h): sc-75775, MetRS siRNA (m): sc-75776, MetRS shRNA Plasmid (h): sc-75775-SH, MetRS shRNA Plasmid (m): sc-75776-SH, MetRS shRNA (h) Lentiviral Particles: sc-75775-V and MetRS shRNA (m) Lentiviral Particles: sc-75776-V.

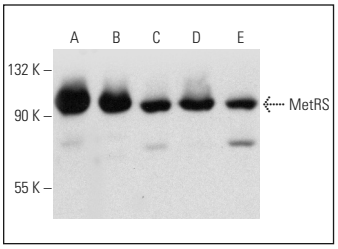
Molecular Weight of MetRS: 101 kDa.

Positive Controls: NRK whole cell lysate: sc-364197, SW480 cell lysate: sc-2219 or Neuro-2A whole cell lysate: sc-364185.

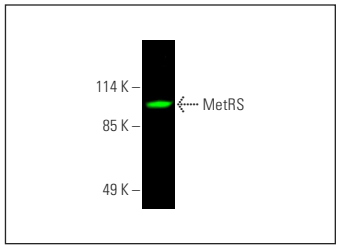
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MetRS (H-1): sc-166850. Western blot analysis of MetRS expression in SW480 (**A**), HEL 92.1.7 (**B**), F9 (**C**), Neuro-2A (**D**) and NRK (**E**) whole cell lysates.



MetRS (H-1): sc-166850. Near-infrared western blot analysis of MetRS expression in HEL 92.1.7 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

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.