**BACKGROUND**

Thymidylate synthase (TS), also designated TYMS, TMS, TSase and HsT422, uses 5,10-methylenetetrahydrofolate (methylene-THF) as a cofactor in the synthesis of 2′-deoxythymidine-5′-monophosphate (dTMP), an essential precursor for DNA biosynthesis. TS is an RNA-binding protein that can interact with its own mRNA. The TS/mRNA ribonucleoprotein complex can also associate with a number of other cellular mRNAs, including those accompanying to the p53 tumor suppressor gene and the Myc family of transcription factors. Inhibition of DNA replication and cell death resulting from thymidine depletion occurs when TS enzyme activity is inhibited with substrate or cofactor analogs, making the TS enzyme an important target for chemotherapy. Cancer cells are sensitive to thymidine depletion, as they multiply rapidly.

**CHROMOSOMAL LOCATION**

Genetic locus: TYMS (human) mapping to 18p11.32, Tyms (mouse) mapping to 5 B1.

**SOURCE**

TS (TS 106) is a mouse monoclonal antibody raised against recombinant Thymidylate Synthase of human origin.

**PRODUCT**

Each vial contains 200 μg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. TS (TS 106) is available conjugated to agarose (sc-33679 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33679 HRP), 200 μg/ml, for WB, IHC( P) and ELISA; to either phycoerythrin (sc-33679 PE), fluorescein (sc-33679 FITC), Alexa Fluor® 488 (sc-33679 AF488), Alexa Fluor® 546 (sc-33679 AF546), Alexa Fluor® 594 (sc-33679 AF594) or Alexa Fluor® 647 (sc-33679 AF647), 200 μg/ml, for WB, IHC( P) and FC; and to either Alexa Fluor® 680 (sc-33679 AF680) or Alexa Fluor® 790 (sc-33679 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

TS (TS 106) is recommended for detection of TS 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μg per 1 x 10⁶ cells).

Suitable for use as control antibody for TS siRNA (h): sc-44978, TS siRNA (m): sc-44979, TS shRNA Plasmid (h): sc-44978-SH, TS shRNA Plasmid (m): sc-44979-SH, TS shRNA (h) Lentiviral Particles: sc-44978-V and TS shRNA (m) Lentiviral Particles: sc-44979-V.

Molecular Weight of TS: 36 kDa.

Positive Controls: TS (h): 293T Lysate: sc-170183, HeLa whole cell lysate: sc-2200 or SH-SY5Y whole cell lysate: sc-3812.

**STORAGE**

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

**DATA**

**SELECT PRODUCT CITATIONS**


**RESEARCH USE**

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