

ENOSF1 (D-20): sc-84813

BACKGROUND

Thymidylate synthase (also designated TS, TYMS, TMS, TSase, 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 as well as with a number of other cellular mRNAs. 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. ENOSF1, also designated Antisense RNA to thymidylate synthase or rTS, is a 443 amino acid mitochondrial protein that functions to synthesize signaling molecules that downregulate thymidylate synthase. Existing as three isoforms (α , β and γ), ENOSF1 may be regulated by phosphorylation and/or sumoylation.

REFERENCES

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- Chu, J. and Dolnick, B.J. 2002. Natural antisense (rTS α) RNA induces site-specific cleavage of thymidylate synthase mRNA. *Biochim. Biophys. Acta* 1587: 183-193.
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- Dolnick, R., Wu, Q., Angelino, N.J., Stephanie, L.V., Chow, K.C., Sufrin, J.R. and Dolnick, B.J. 2005. Enhancement of 5-fluorouracil sensitivity by an rTS signaling mimic in H630 colon cancer cells. *Cancer Res.* 65: 5917-5924.
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CHROMOSOMAL LOCATION

Genetic locus: ENOSF1 (human) mapping to 18p11.32.

STORAGE

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

SOURCE

ENOSF1 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ENOSF1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84813 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

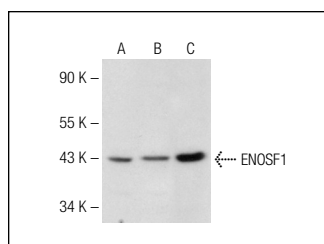
ENOSF1 (D-20) is recommended for detection of ENOSF1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ENOSF1 siRNA (h): sc-77275, ENOSF1 shRNA Plasmid (h): sc-77275-SH and ENOSF1 shRNA (h) Lentiviral Particles: sc-77275-V.

Molecular Weight of ENOSF1: 50/41/12 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or MCF7 whole cell lysate: sc-2206.

DATA



ENOSF1 (D-20): sc-84813. Western blot analysis of ENOSF1 expression in K-562 (A), MCF7 (B) and Jurkat (C) whole cell lysates.

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.