

# ENOSF1 (V-18): sc-84815

## 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 ( $\alpha$ ,  $\beta$  and  $\gamma$ ), ENOSF1 may be regulated by phosphorylation and/or sumoylation.

## REFERENCES

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2. Johnson, L.F. 1994. Posttranscriptional regulation of thymidylate synthase gene expression. *J. Cell. Biochem.* 54: 387-392.
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4. Chu, J. and Dolnick, B.J. 2002. Natural antisense (rTS $\alpha$ ) RNA induces site-specific cleavage of thymidylate synthase mRNA. *Biochim. Biophys. Acta* 1587: 183-193.
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6. Dolnick, B.J., Angelino, N.J., Dolnick, R. and Sufrin, J.R. 2003. A novel function for the rTS gene. *Cancer Biol. Ther.* 2: 364-369.
7. Liang, P., Nair, J.R., Song, L., McGuire, J.J. and Dolnick, B.J. 2005. Comparative genomic analysis reveals a novel mitochondrial isoform of human rTS protein and unusual phylogenetic distribution of the rTS gene. *BMC Genomics* 6: 125.
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## CHROMOSOMAL LOCATION

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

## SOURCE

ENOSF1 (V-18) 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  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84815 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ENOSF1 (V-18) is recommended for detection of ENOSF1 of 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).

ENOSF1 (V-18) is also recommended for detection of ENOSF1 in additional species, including equine.

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.

## 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.