

# DTYMK (B-8): sc-365925

## BACKGROUND

DTYMK (deoxythymidylate kinase (thymidylate kinase)), also known as CDC8, TMPK, TYMK or dTMP kinase, is a 212 amino acid protein that belongs to the thymidylate kinase family and is involved in pyrimidine metabolism. Specifically, DTYMK catalyzes the ATP-dependent conversion of dTMP (deoxythymidine monophosphate) to dTDP (deoxythymidine diphosphate), which then functions as one of the four nucleotides in DNA. Via its role in the catalytic creation of dTDP, DTYMK plays an important role in the pathway of DNA synthesis and is thought to be involved in cell cycle progression and cell growth. DTYMK expression levels peak during the S phase (synthesis phase) of the cell cycle, further supporting the role of DTYMK in DNA synthesis.

## REFERENCES

- Cummins, R.R. and Balinsky, D. 1980. Activities of some enzymes of pyrimidine and DNA synthesis in a rat transplantable hepatoma and human primary hepatomas, in cell lines derived from these tissues, and in human fetal liver. *Cancer Res.* 40: 1235-1239.
- Su, J.Y. and Sclafani, R.A. 1991. Molecular cloning and expression of the human deoxythymidylate kinase gene in yeast. *Nucleic Acids Res.* 19: 823-827.
- Huang, S.H., et al. 1994. Human dTMP kinase: gene expression and enzymatic activity coinciding with cell cycle progression and cell growth. *DNA Cell Biol.* 13: 461-471.
- Van Rompay, A.R., et al. 2000. Phosphorylation of nucleosides and nucleoside analogs by mammalian nucleoside monophosphate kinases. *Pharmacol. Ther.* 87: 189-198.

## CHROMOSOMAL LOCATION

Genetic locus: DTYMK (human) mapping to 2q37.3; Dtymk (mouse) mapping to 1 D.

## SOURCE

DTYMK (B-8) is a mouse monoclonal antibody raised against amino acids 1-212 representing full length DTYMK of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DTYMK (B-8) is available conjugated to agarose (sc-365925 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365925 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365925 PE), fluorescein (sc-365925 FITC), Alexa Fluor® 488 (sc-365925 AF488), Alexa Fluor® 546 (sc-365925 AF546), Alexa Fluor® 594 (sc-365925 AF594) or Alexa Fluor® 647 (sc-365925 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365925 AF680) or Alexa Fluor® 790 (sc-365925 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

DTYMK (B-8) is recommended for detection of DTYMK 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 DTYMK siRNA (h): sc-94639, DTYMK siRNA (m): sc-143184, DTYMK shRNA Plasmid (h): sc-94639-SH, DTYMK shRNA Plasmid (m): sc-143184-SH, DTYMK shRNA (h) Lentiviral Particles: sc-94639-V and DTYMK shRNA (m) Lentiviral Particles: sc-143184-V.

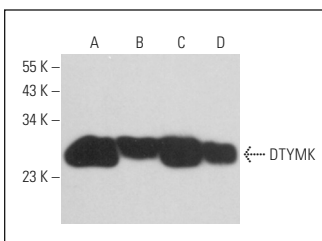
Molecular Weight of DTYMK: 24 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Raji whole cell lysate: sc-364236 or MDA-MB-231 cell lysate: sc-2232.

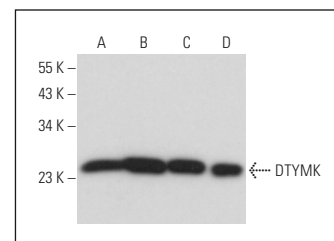
## RECOMMENDED SUPPORT REAGENTS

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



DTYMK (B-8): sc-365925. Western blot analysis of DTYMK expression in Raji (A), HeLa (B), MDA-MB-231 (C) and ES-2 (D) whole cell lysates.



DTYMK (B-8): sc-365925. Western blot analysis of DTYMK expression in Raji (A), HEL 92.1.7 (B), TF-1 (C) and M1 (D) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Martínez-Arribas, B., et al. 2020. DCTPP1 prevents a mutator phenotype through the modulation of dCTP, dTTP and dUTP pools. *Cell. Mol. Life Sci.* 77: 1645-1660.

## RESEARCH USE

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

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