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Human Thymidylate synthase/TYMS antibody

Catalog Number: ATGA0169

PRODUCT INFORMATION

Catalog number

ATGA0169

Clone No.

AT21S5

Product type

Monoclonal Antibody

UnitProt No.

P04818

NCBI Accession No.

NP 001062

Alternative Names

HST422, TMS, TS, d TMP synthase, EC 2.1.1.45, MGC88736, Thymidylate synthase, Thymidylate synthetase, Tsase, TYMS, TYMS protein, Tyms thymidylate synthetase

PRODUCT SPECIFICATION

Antibody Host

Mouse

Reacts With

Human

Concentration

1mg/ml (determined by BCA assay)

Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) with 0.02% Sodium Azide, 10% glycerol

Immunogen

Recombinant TYMS (1-313aa) purified from E. coli

Isotype

IgG2b kappa

Purification Note

By protein-G affinity chromatography

Application

ELISA, WB, ICC/IF, FACS

Usage

The antibody has been tested by ELISA, Western blot, ICC/IF and FACS analysis to assure specificity and reactivity. Since application varies, however, each investigation should be titrated by the reagent to obtain optimal results.



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Storage

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

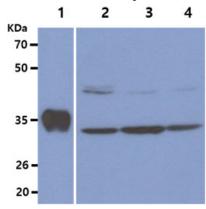
The methylation of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dMTP) is an essential step for the formation of thymine nucleotides. This process is catalyzed by thymidylate synthase (TS or TYMS). TYMS is an intracellular enzyme that provides the sole de novo source of thymidylate in activity highest proliferating cells. Being the exclusive source of dTMP, TS is also an important target for anticancer agents such as 5-fluorouracil (5-FU). 5-FU acts as a TS inhibitor and is active against solid tumors such as colon, breast, head and neck. TS expression may be useful in predicting overall patient survival, but the prognostic value of TS expression continues to be a subject of investigation for different types of cancers.

General References

Shahrokni A, et al., (2009) Clin Colorectal Cancer 8(4):231-4. Henriquez-Hernandez LA, et al., (2009) Oncol Rep 22(6):1425-33. Colavito D, et al., (2009) Cancer Chemother Pharmacol 64(6):1195-200.

DATA

Western blot analysis (WB)

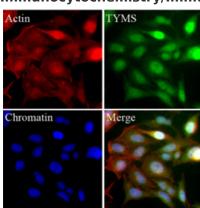


The recombinant protein (50ng) and cell lysates (40ug) were resolved by SDS-PAGE, transferred to PVDF membrane and probed with antihuman TYMS (1:2000). Proteins were visualized using a goat antimouse secondary antibody conjugated to HRP and an ECL detection system.

Lane 1.: Recombinant human TYMS protein

Lane 2.: HeLa cell lysate Lane 3.: Jurkat cell lysate Lane 4.: MCF7 cell lysate

Immunocytochemistry/Immunofluorescence (ICC/IF)

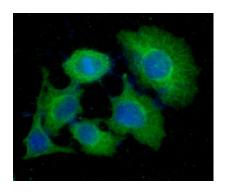


HeLa cells were stained with monoclonal anti-TYMS antibody (Green). Nucleus and Actin were stained by Phalloidin-TRITC (Red) or Hoechst 33342 (Blue).



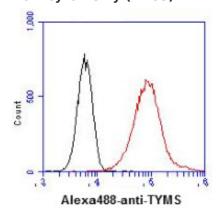
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ICC/IF analysis of TYMS in HeLa cells. The cell was stained with ATGA0169 (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).

Flow cytometry (FACS)



Flow cytometry analysis of TYMS in HeLa cell line, staining at 2-5ug for 1x10^6cells (red line). The secondary antibody used goat antimouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).

