**Thymidylate Synthase Antibody**

Store at -20°C

**Rev. 01/14/16**

Background: The methylation of deoxyuridine monophosphate (dUMP) to deoxythymidine monophosphate (dTMP) is an essential step in the formation of thymine nucleotides. This process is catalyzed by thymidylate synthase (TS or TYMS), a homodimer composed of two 30 kDa subunits. TS is an intracellular enzyme that provides the sole de novo source of thymidylate, making it a required enzyme in DNA biosynthesis with activity highest in proliferating cells. Being the exclusive source of dTMP, TS is also an important target for anticancer agents such as 5-fluorouracil (5-FU). Studies have shown that patients with metastases expressing lower levels of TS have higher response rate to treatment with 5-FU than patients with tumors that have increased levels of TS. 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.

Specificity/Sensitivity: Thymidylate Synthase Antibody detects endogenous levels of total thymidylate synthase protein.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human thymidylate synthase. Antibodies are purified using protein A and peptide affinity chromatography.

### Applications

<table>
<thead>
<tr>
<th>Applications</th>
<th>Species Cross-Reactivity*</th>
<th>Molecular Wt.</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>W Endogenous</td>
<td>H, M, R, Hm **</td>
<td>30 kDa</td>
<td>Rabbit **</td>
</tr>
</tbody>
</table>

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

### Background References:


**IMPORTANT:** For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.