

# Themis (N-terminal region)

Cat. # TP3881

Host Rabbit Polyclonal

Size 100 µl

## Background:

During positive selection, thymocytes transition through a stage during which T cell antigen receptor (TCR) signaling controls CD4-versus-CD8 lineage selection and maturation. Thymocyte-expressed molecule involved in selection (themis) is critically required for this thymocyte selection. Themis has been identified as several molecules: Grb2-associating protein (GASP), signaling phosphoprotein specific for T cells (SPoT), TSEPA, and thylex. Themis is a cytosolic protein with no known functional motifs. Its expression is observed primarily in T cells, especially immature CD4/CD8 double positive thymocytes. Themis-deficient thymocytes have defective positive selection, and fewer numbers of mature thymocytes. These themis-induced effects may be due to defective TCR signaling since themis constitutively associates with the TCR adaptor Grb2, and themis is phosphorylated quickly after TCR stimulation. In addition, themis is required for optimal TCR-driven calcium mobilization and activation of the MAP kinase Erk. Thus, themis may be an important adaptor protein in TCR signaling.

## References

- Johnson, A.L., et al. (2009) Nat Immunol. 10(8):831.  
 Lesourme, R., et al. (2009) Nat Immunol. 10(8):840.  
 Fu, G., et al. (2009) Nat Immunol. 10(8):848.  
 Kakugawa, K., et al. (2009) Mol Cell Biol. 29(18):5128.  
 Patrick M.S., et al. (2009) Proc Natl Acad Sci U S A. 106(38):16345.

## Immunogen:

Themis (N-terminal region) antibody was generated from a peptide that included amino acids in the N-terminal region of human themis. This sequence has high homology to the conserved region in rat and mouse themis.

## Applications:

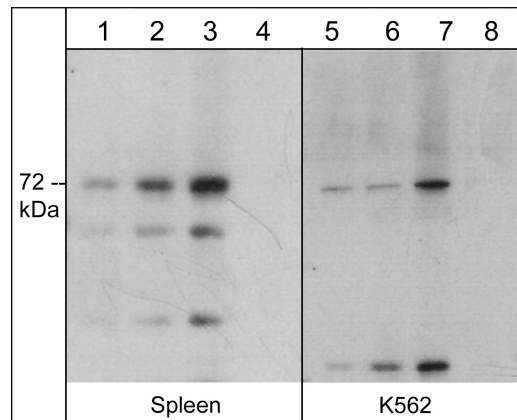
WB 1:1000  
 ELISA 1:2000

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

## Related Products:

- PK6140 p38 MAPK Phospho-Regulation Antibody Sampler Kit  
 PP3411 p38 $\alpha$  MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal  
 GM3311 Grb2 Mouse Monoclonal  
 SK6350 c-Src Phospho-Regulation Antibody Sampler Kit  
 PM2691 PYK2 (Tyr-402), phospho-specific Mouse Monoclonal  
 TX3885 Themis (N-terminal region) Peptide

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Western blot of mouse spleen (lanes 1-4) and human K562 cells (lanes 5-8). The blots were probed with anti-themis (N-terminal region) rabbit polyclonal antibody at 1:2000 (lanes 1 & 5), 1:1000 (lanes 2 & 6), 1:500 (lanes 3 & 7), or 1:500 in the presence of themis blocking peptide (TX3885) (lanes 4 & 8).

## Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

## Specificity:

This antibody was affinity purified using themis (N-terminal region) peptide (without carrier). The antibody detects a 72 kDa\* protein corresponding to the molecular mass of themis on SDS-PAGE immunoblots of mouse spleen and human K562 cells.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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