Revision 1

Store at -20C

#37765

# Granzyme M (E7B4W) Rabbit mAb

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| W | H | Endogenous | 25-30 | Rabbit IgG | #P51124 | 3004 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

## Specificity/Sensitivity

Granzyme M (E7B4W) Rabbit mAb recognizes endogenous levels of total Granzyme M protein. This antibody does not cross-react with human Granzyme A, B, H, or K proteins.

## Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala141 of human Granzyme M protein.

## Background

Granzymes are a family of serine proteases expressed by cytotoxic T lymphocytes and natural killer (NK) cells and are key components of immune responses to pathogens and transformed cells (1). Granzymes are synthesized as zymogens and are processed into mature enzymes by cleavage of a leader sequence. They are released by exocytosis in lysosome-like granules containing perforin, a membrane pore-forming protein. Granzyme B has the strongest apoptotic activity of all the granzymes as a result of its caspase-like ability to cleave substrates at aspartic acid residues thereby activating procaspases directly and cleaving downstream caspase substrates (2,3).
Granzyme M prefers to cleave after a Methionine or Leucine residue, and proteolyzes a restricted set of macromolecular substrates (4-7). Granzyme M is highly expressed in NK, NKT, γδ T cells, and in differentiated effector $CD8^+$ T cells, suggesting a role for Granzyme M in both innate and adaptive immunity (4-11). After perforin-mediated entry into a target cell, various reports show Granzyme M can induce apoptosis and tumor cell death, stimulate LPS-mediated inflammation, or inhibit viral replication (4,11-15).

## Background References

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4. de Poot, S.A. and Bovenschen, N. (2014) *Cell Death Differ* 21, 359-68.
5. Smyth, M.J. et al. (1993) *J Immunol* 151, 6195-205.
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10. Bade, B. et al. (2005) *Int Immunol* 17, 1419-28.
11. van Domselaar, R. et al. (2013) *Cell Death Differ* 20, 419-29.
12. Lu, H. et al. (2006) *J Immunol* 177, 1171-8.
13. de Poot, S.A. et al. (2014) *Cell Death Differ* 21, 416-26.
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15. Anthony, D.A. et al. (2010) *J Immunol* 185, 1794-803.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

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

## Applications Key

**W:** Western Blotting

## Cross-Reactivity Key

**H:** Human

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