Revision 1

Store at -20C

#47465

Granzyme K (E9I3O) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	17-27	Rabbit IgG	#P49863	3003

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 K (E9I3O) Rabbit mAb recognizes endogenous levels of total Granzyme K protein. This antibody does not cross-react with human Granzyme A, B, H, or M proteins.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp196 of human Granzyme K 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 K has tryptase-like activity with a preference for cleaving its specific substrates after basic residues, arginine or lysine (4-7). Granzyme K is expressed by NK T cells, cytotoxic T cells, and NK cells (8,9). After perforin-mediated entry into a target cell, Granzyme K induces apoptosis via generation of reactive oxygen species, DNA damage, and BID-dependent mitochondrial damage (10-12).

Background References

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3. Trapani, J.A. and Sutton, V.R. (2003) *Curr. Opin. Immunol.* 15, 533-43.
4. Wilharm, E. et al. (1999) *J Biol Chem* 274, 27331-7.
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6. Carter, C.R. et al. (1996) *Cell Immunol* 172, 235-45.
7. Bovenschen, N. et al. (2009) *J Biol Chem* 284, 3504-12.
8. Bratke, K. et al. (2008) *Thorax* 63, 1006-11.
9. Bade, B. et al. (2005) *Int Immunol* 17, 1419-28.
10. Zhao, T. et al. (2007) *J Biol Chem* 282, 12104-11.
11. Zhao, T. et al. (2007) *Cell Death Differ* 14, 489-99.
12. MacDonald, G. et al. (1999) *J Exp Med* 189, 131-44.

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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