

## Product datasheet

# Anti-Granzyme K antibody [GM-24C3] ab3771

### Overview

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<b>Product name</b>	Anti-Granzyme K antibody [GM-24C3]
<b>Description</b>	Mouse monoclonal [GM-24C3] to Granzyme K
<b>Specificity</b>	This antibody recognises Granzyme K transiently expressed on the cell surface of transfected BOSC cells as well as the native protein in peripheral blood mononuclear cells. It does not cross react with Granzyme A. Specificity is routinely tested by flow cytometry on BOSC cells transiently transfected with a Granzyme K expression vector.
<b>Tested applications</b>	<b>Suitable for:</b> ELISA, Flow Cyt
<b>Species reactivity</b>	<b>Reacts with:</b> Human
<b>Immunogen</b>	Human Granzyme K cDNA (see relevance text).
<b>General notes</b>	

Granzymes are exogenous serine proteases that are stored in the cytotoxic granules of activated T cells and NK cells. Upon target cell contact, the contents of these granules are directionally exocytosed and, with the assistance of perforin, the granzymes enter the cytosol of the target cell. To date, five human granzymes (A, B, H, K, M) have been described at the molecular genetic level. Human granzyme K (GZMK) is a 28 kD aserine protease whose gene is located on chromosome 5q11-12 close to the granzyme A-encoding gene. Like granzyme A, it has a trypsin-like specificity cleaving at the basic residues arginine and lysine. To which extent human granzyme K plays a role in the induction of apoptosis in the target cells remains to be evaluated. However, granzyme K purified from a rat large granular lymphoma cell line (RNK-16) has been shown to induce apoptosis in vitro. High mRNA levels of granzyme K are detected in activated T cells and NK cells but are absent in normal tissues that do not contain high numbers of these cells. Antibodies produced from cDNA: Conventional technologies usually either generate antibodies against purified proteins, or against synthetic peptides based on amino acid sequences derived from DNA sequence data. Genetic immunization involves introducing the gene in the form of a cDNA directly into an animal which translates this cDNA into protein thus stimulating an immune response against the foreign protein. Although the synthetic peptide approach is comparable in speed, the quality of antibodies generated by genetic immunization is far superior. This is because the protein is made by the immunized animal, utilizing complex cellular mechanisms that allow it to gain a native conformation. Antibodies are then generated against a native protein, such as is found in the blood or tissues of its host species. Membrane-bound or secreted proteins often create problems for conventional antibody technology because in their native form, they are often modified by glycosylation, or in some cases exist as multiple membrane-spanning proteins that are not soluble following isolation or synthesis in recombinant systems. All of these problems are avoided if the immunized animal makes the protein itself. Antibodies generated by genetic immunization have been shown to have binding affinities to the protein in the sub-nanomolar range, which are approximately 100x higher than conventionally

developed antibodies and much higher than single chain antibodies. Results confirm published data for much higher avidity of sera generated by genetic immunization as compared with that gained by immunization with a corresponding recombinant protein.

## Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
<b>Storage buffer</b>	Preservative: None Constituents: PBS, pH 7.2
<b>Purity</b>	Protein G purified
<b>Primary antibody notes</b>	<p>Granzymes are exogenous serine proteases that are stored in the cytotoxic granules of activated T cells and NK cells. Upon target cell contact, the contents of these granules are directionally exocytosed and, with the assistance of perforin, the granzymes enter the cytosol of the target cell. To date, five human granzymes (A, B, H, K, M) have been described at the molecular genetic level. Human granzyme K (GZMK) is a 28 kD aserine protease whose gene is located on chromosome 5q11-12 close to the granzyme A-encoding gene. Like granzyme A, it has a trypsin-like specificity cleaving at the basic residues arginine and lysine. To which extent human granzyme K plays a role in the induction of apoptosis in the target cells remains to be evaluated. However, granzyme K purified from a rat large granular lymphoma cell line (RNK-16) has been shown to induce apoptosis in vitro. High mRNA levels of granzyme K are detected in activated T cells and NK cells but are absent in normal tissues that do not contain high numbers of these cells. Antibodies produced from cDNA: Conventional technologies usually either generate antibodies against purified proteins, or against synthetic peptides based on amino acid sequences derived from DNA sequence data. Genetic immunization involves introducing the gene in the form of a cDNA directly into an animal which translates this cDNA into protein thus stimulating an immune response against the foreign protein. Although the synthetic peptide approach is comparable in speed, the quality of antibodies generated by genetic immunization is far superior. This is because the protein is made by the immunized animal, utilizing complex cellular mechanisms that allow it to gain a native conformation. Antibodies are then generated against a native protein, such as is found in the blood or tissues of its host species. Membrane-bound or secreted proteins often create problems for conventional antibody technology because in their native form, they are often modified by glycosylation, or in some cases exist as multiple membrane-spanning proteins that are not soluble following isolation or synthesis in recombinant systems. All of these problems are avoided if the immunized animal makes the protein itself. Antibodies generated by genetic immunization have been shown to have binding affinities to the protein in the sub-nanomolar range, which are approximately 100x higher than conventionally developed antibodies and much higher than single chain antibodies. Results confirm published data for much higher avidity of sera generated by genetic immunization as compared with that gained by immunization with a corresponding recombinant protein.</p>
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	GM-24C3
<b>Isotype</b>	IgG2b

## Applications

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Our [Abpromise guarantee](#) covers the use of **ab3771** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ELISA		1/200 - 1/400.
Flow Cyt		Use 1.2µg for 10 <sup>6</sup> cells.

## Target

<b>Tissue specificity</b>	Expressed in lung, spleen, thymus and peripheral blood leukocytes.
<b>Sequence similarities</b>	Belongs to the peptidase S1 family. Granzyme subfamily. Contains 1 peptidase S1 domain.
<b>Cellular localization</b>	Secreted. Cytoplasmic granule.

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