abcam

Product datasheet

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

Overview

Product name	Anti-Granzyme K antibody [GM-24C3]
Description	Mouse monoclonal [GM-24C3] to Granzyme K
Host species	Mouse
Specificity	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.
Tested applications	**Suitable for:** ELISA, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Human Granzyme K cDNA (see relevance text).

General notes

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 specifity 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 inactivated 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, utilzing 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

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS, pH 7.2
Purity	Protein G purified
Primary antibody notes	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 specifity 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 inactivated 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, utilzing 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.
Clonality	Monoclonal
Clone number	GM-24C3
Isotype	IgG2b

Applications

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 10^6 cells. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Target

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

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