

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Granzyme A in direct ELISAs.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Granzyme A Cys26-Val262 Accession # P12544
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

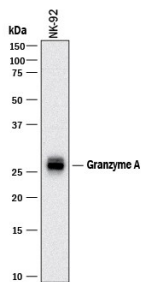
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.25 µg/mL	See Below
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below
<b>ELISA</b>	This antibody functions as an ELISA detection antibody when paired with Mouse Anti-Human Granzyme A Monoclonal Antibody (Catalog # <a href="#">MAB29052</a> ).  <i>This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human Granzyme A DuoSet ELISA Kit (Catalog # <a href="#">DY2905-05</a>) for convenient development of a sandwich ELISA.</i>	

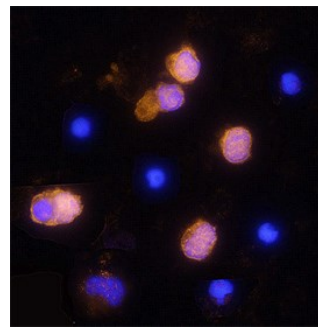
## DATA

### Western Blot



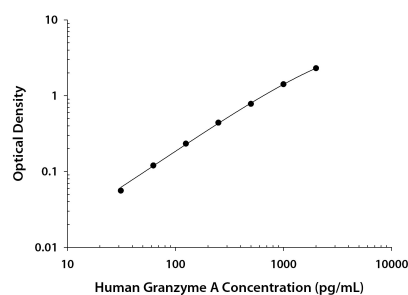
**Detection of Human Granzyme A by Western Blot.** Western blot shows lysates of NK-92 human natural killer lymphoma cell line. PVDF membrane was probed with 0.25 µg/mL of Goat Anti-Human Granzyme A Antigen Affinity-purified Polyclonal Antibody (Catalog # [AF2905](#)) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # [HAF017](#)). A specific band was detected for Granzyme A at approximately 28 kDa (as indicated). This experiment was conducted under reducing conditions and using [Immunoblot Buffer Group 1](#).

### Immunocytochemistry



**Granzyme A in Human PBMCs.** Granzyme A was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Goat Anti-Human Granzyme A Antigen Affinity-purified Polyclonal Antibody (Catalog # [AF2905](#)) at 15 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (yellow; Catalog # [NL001](#)) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

### ELISA



**Human Granzyme A ELISA Standard Curve.** Recombinant Human Granzyme A protein was serially diluted 2-fold and captured by Mouse Anti-Human Granzyme A Monoclonal Antibody (Catalog # [MAB29052](#)) coated on a Clear Polystyrene Microplate (Catalog # [DY990](#)). Goat Anti-Human Granzyme A Antigen Affinity-purified Polyclonal Antibody (Catalog # [AF2905](#)) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # [DY998](#)) followed by Substrate Solution (Catalog # [DY999](#)) and stopping the enzymatic reaction with Stop Solution (Catalog # [DY994](#)).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"><li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li><li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li><li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li></ul>

## BACKGROUND

Granzyme A is a member of the granzyme family of the serine proteases found specifically in the cytotoxic granules of cytotoxic T lymphocytes (CTL) and natural killer (NK) cells. Granzyme A is the most abundant protease in CTL and NK cells. It induces caspase-independent cell death when introduced into target cells by perforin (1). Human granzyme A is synthesized as a 262 amino acid (aa) precursor with a signal peptide (aa 1-26), a propeptide (aa 27-28) and a mature chain (aa 29-262) (2). After being activated by lysyl endopeptidase removal of the propeptide, Granzyme A cleaves thioester substrates. Mature human granzyme A shares 71% amino acid sequence identity with mouse granzyme A.

### References:

1. Lieberman, J. and Z. Fan (2003) *Curr. Opin. Immunol.* **15**:553.
2. Gershenfeld, H.K. *et al.* (1988) *Proc. Natl. Acad. Sci. USA* **85**:1184.