

## Product datasheet

# Human Granzyme B ELISPOT Kit (with un-coated plates) ab46617

[1 References](#) [1 Image](#)

### Overview

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**Product name** Human Granzyme B ELISPOT Kit (with un-coated plates)

**Detection method** Colorimetric

**Sample type** Suspension cells

**Assay type** Sandwich (qualitative)

**Assay duration** Multiple steps standard assay

**Species reactivity** **Reacts with:** Human

**Product overview** This Human Granzyme B ELISPOT Kit (with un-coated plates) is designed to enumerate Granzyme B producing cells in a single cell suspension. This method has the advantage of requiring a minimum of in-vitro manipulations allowing Granzyme B production analysis as close as possible to in-vivo conditions in a highly specific way. This technique is designed to determine the frequency of Granzyme B producing cells under a given stimulation, and the follow-up of such frequency during a treatment and/or a pathological state. ELISPOT assay constitutes an ideal tool in the TH1 / TH2 response, vaccine development, viral infection monitoring and treatment, cancerology, infectious diseases, autoimmune diseases and transplantation.

The ELISPOT assay is based on sandwich immuno-enzyme technology. Cell secreted cytokines or soluble molecules are captured by coated antibodies avoiding diffusion in supernatant, protease degradation or binding on soluble membrane receptors. After cell removal, the captured cytokines are revealed by tracer antibodies and appropriate conjugates.

### Principle of Method

After cell stimulation, locally produced cytokines are captured by a specific monoclonal antibody. After cell lysis, trapped cytokine molecules are revealed by a secondary biotinylated detection antibody, which is in turn recognised by streptavidin conjugated to alkaline phosphatase. PVDF-bottomed-well plates are then incubated with BCIP/NBT substrate. Colored "purple" spots indicate cytokine production by individual cells.

Recognizes natural human Granzyme B.

**Tested applications** **Suitable for:** ELISpot

**Platform** Microplate

## Properties

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**Storage instructions** Store at +4°C. Please refer to protocols.

Components	5 x 96 tests	10 x 96 tests
96 PVDF-bottomed-well plates.	5 units	10 units
Bovine Serum Albumin	1 x 1g	2 x 1g
Dry Skimmed milk	1 x 1g	2 x 1g
Biotinylated detection antibody	1 vial	2 vials
Granzyme B Capture Antibody	1 x 500µl	2 x 500µl
Ready-to-use BCIP/NBT substrate buffer	2 x 27ml	4 x 27ml
Streptavidin - Alkaline Phosphatase conjugated	1 x 50µl	2 x 50µl

**Relevance** Cytolytic T lymphocytes and natural killer cells share the remarkable ability to recognize, bind, and lyse specific target cells. They are thought to protect their host by lysing cells bearing on their surface 'nonself' antigens, usually peptides or proteins resulting from infection by intracellular pathogens. Granzyme B is crucial for the rapid induction of target cell apoptosis by CTL in cell-mediated immune response.

**Cellular localization** Cytoplasmic granule. Cytoplasmic granules of cytolytic T-lymphocytes and natural killer cells

## Applications

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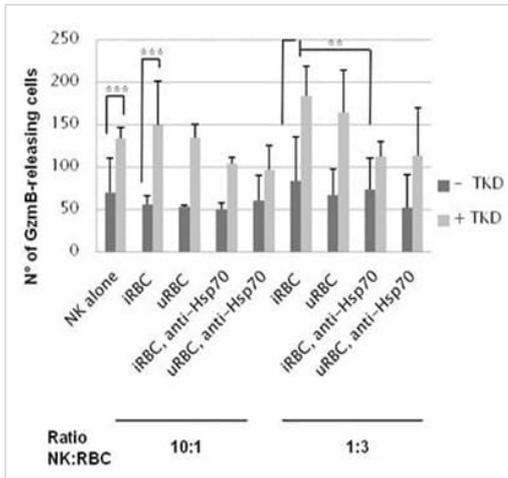
**The Abpromise guarantee** Our [Abpromise guarantee](#) covers the use of ab46617 in the following tested applications.

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

Application	Abreviews	Notes
ELISpot		Use at an assay dependent dilution.

## Images

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Measurement of Granzyme B release from Human NK cells using ab46617 - Granzyme B Human Elispot Kit.

NK cells were cultured with rIL-2 and with/without TKD peptide (2 µg/ml) for 4–5 days prior to stimulation with i/uRBC (1:3 or 10:1), before being isolated. Granzyme B release was determined via ELISPOT assay following the protocol, with 2000 effector cells. Experiments were repeated using a blocking antibody directed against Hsp70.

Image from Böttger E et al., PLoS One. 2012;7(3):e33774. doi: 10.1371/journal.pone.0033774. Epub 2012 Mar 15.; Fig 6.; March 15, 2012, PLoS ONE 7(3): e33774.

ELISPOT - Granzyme B Human Elispot Kit  
(ab46617)

Böttger E et al., PLoS One, 7, e33774, 2012  
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