

Product datasheet

Human Interferon gamma ELISPOT Set ab46551

Overview

Product name	Human Interferon gamma ELISPOT Set
Sample type	Suspension cells
Assay type	Sandwich (qualitative)
Assay duration	Multiple steps standard assay
Species reactivity	Reacts with: Human
Product overview	Abcam's Human Interferon gamma ELISPOT Set is an <i>in vitro</i> ELISPOT assay designed for the qualitative measurement of IFN γ production and secretion in a single cell suspension.

The ELISPOT assay is designed to enumerate cytokine producing cells in a single cell suspension. This method has the advantage of requiring a minimum of *in vitro* manipulations allowing cytokine production analysis as close as possible to in-vivo conditions in a highly specific way. This technique is designed to determine the frequency of cytokine 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.

This 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.

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 Interferon Gamma.

Tested applications

Suitable for: ELISpot

Platform

Reagents

Properties

Storage instructions

Store at +4°C. Please refer to protocols.

Components	5 x 96 tests	10 x 96 tests	15 x 96 tests	20 x 96 tests
Biotinylated Human IFN γ Detection Antibody	1 vial	2 vials	3 vials	4 vials
Bovine Serum Albumin	1 x 2g	2 x 2g	3 x 2g	4 x 2g
Human IFN Gamma Capture antibody	1 x 0.5ml	2 x 0.5ml	3 x 0.5ml	4 x 0.5ml
Ready-to-use BCIP/NBT substrate buffer	1 x 50ml	2 x 50ml	3 x 50ml	8 x 25ml
Streptavidin - Alkaline Phosphatase conjugated	1 x 50 μ l	2 x 50 μ l	3 x 50 μ l	4 x 50 μ l

Function

Produced by lymphocytes activated by specific antigens or mitogens. IFN-gamma, in addition to having antiviral activity, has important immunoregulatory functions. It is a potent activator of macrophages, it has antiproliferative effects on transformed cells and it can potentiate the antiviral and antitumor effects of the type I interferons.

Tissue specificity

Released primarily from activated T lymphocytes.

Involvement in disease

In Caucasians, genetic variation in IFNG is associated with the risk of aplastic anemia (AA) [MIM:609135]. AA is a rare disease in which the reduction of the circulating blood cells results from damage to the stem cell pool in bone marrow. In most patients, the stem cell lesion is caused by an autoimmune attack. T-lymphocytes, activated by an endogenous or exogenous, and most often unknown antigenic stimulus, secrete cytokines, including IFN-gamma, which would in turn be able to suppress hematopoiesis.

Sequence similarities

Belongs to the type II (or gamma) interferon family.

Post-translational modifications

Proteolytic processing produces C-terminal heterogeneity, with proteins ending alternatively at Gly-150, Met-157 or Gly-161.

Cellular localization

Secreted.

Applications

The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of ab46551 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.

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