

Human TNF alpha ELISPOT Set ab46550

1 References

Overview

Product name	Human TNF alpha ELISPOT Set
Sample type	Suspension cells
Assay type	Sandwich (qualitative)
Assay duration	Multiple steps standard assay
Species reactivity	Reacts with: Human, Macaque monkey
Product overview	Abcam's Human TNF alpha ELISPOT Set is an <i>in vitro</i> ELISPOT assay designed for the qualitative measurement of TNFα 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.

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.

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 TNF alpha.

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
Bovine Serum Albumin	1 x 1g	2 x 1g	3 x 1g	4 x 1g
Ready-to-use BCIP/NBT substrate buffer	1 x 50ml	2 x 50ml	3 x 50ml	4 x 50ml
Streptavidin - Alkaline Phosphatase conjugated	1 x 50µl	2 x 50µl	3 x 50µl	4 x 50µl
TNFα Biotinylated detection antibody (clone B-C7)	1 vial	2 vials	3 vials	4 vials
TNFα Capture antibody (clone B-F7)	1 x 0.5ml	2 x 0.5ml	3 x 0.5ml	4 x 0.5ml

Function

Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia. Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

Involvement in disease

Genetic variations in TNF are a cause of susceptibility psoriatic arthritis (PSORAS) [MIM:607507]. PSORAS is an inflammatory, seronegative arthritis associated with psoriasis. It is a heterogeneous disorder ranging from a mild, non-destructive disease to a severe, progressive, erosive arthropathy. Five types of psoriatic arthritis have been defined: asymmetrical oligoarthritis characterized by primary involvement of the small joints of the fingers or toes; asymmetrical arthritis which involves the joints of the extremities; symmetrical polyarthritis characterized by a rheumatoidlike pattern that can involve hands, wrists, ankles, and feet; arthritis mutilans, which is a rare but deforming and destructive condition; arthritis of the sacroiliac joints and spine (psoriatic spondylitis).

Sequence similarities

Belongs to the tumor necrosis factor family.

Post-translational modifications

The soluble form derives from the membrane form by proteolytic processing.
The membrane form, but not the soluble form, is phosphorylated on serine residues.
Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1.
O-glycosylated; glycans contain galactose, N-acetylgalactosamine and N-acetylneuraminic acid.

Cellular localization

Secreted and Cell membrane.

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab46550 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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