

ELISpot Plus: Mouse IL-1 β (ALP)

PRODUCT CODE: 3317-4APW-2

CONTENTS:

2 pre-coated plates, mAb MTB52

Vial 1 (yellow top)

Detection mAb: MTB2433, biotin (40 μ l)
Concentration 0.5 mg/ml

Vial 2 (white top)

Streptavidin-ALP (40 μ l)

BCIP/NBT-plus substrate (25 ml)

The detection antibody is supplied in sterile filtered (0.2 μ m) PBS with 0.02% sodium azide. Streptavidin-ALP is supplied in 0.1 M Tris buffer with 0.002% Kathon CG. Vials have been over-filled to ensure recovery of the specified amount.

STORAGE:

Shipped at ambient temperature. On arrival all reagents should be stored at 4-8 °C. Plates may be kept at room temperature. The expiry date indicates how long unopened products, stored according to instructions, are recommended for use.

Guidelines for ELISpot Plus: Mouse IL-1 β (ALP)

PLEASE READ THROUGH BEFORE STARTING THE ASSAY

A Preparation of ELISpot plate (sterile conditions)

1. Remove the plate from the sealed package and wash 4 times with sterile PBS (200 μ l/well).
2. Condition the plate with medium (200 μ l/well) containing 10% of the same serum as used for the cell suspensions. Incubate for at least 30 minutes at room temperature.

B Incubation of cells in plate (sterile conditions)

1. Remove the medium and add the stimuli followed by the cell suspension. Alternatively cells and stimuli can be mixed before addition to the plate.
2. Put the plate in a 37°C humidified incubator with 5% CO₂ and incubate for 18-48 hours. Do not move the plate during this time and take measures to avoid evaporation (e.g. by wrapping the plate in aluminium foil).

C Detection of spots

1. Remove the cells by emptying the plate and wash 5 times with PBS, 200 μ l/well.
2. Dilute the detection antibody (MTB2433-biotin) to 0.5 μ g/ml in PBS containing 0.5% fetal calf serum (PBS-0.5% FCS). Add 100 μ l/well and incubate for 2 hours at room temperature.
3. Wash plate as above (step C1).
4. Dilute the Streptavidin-ALP (1:1000) in PBS-0.5% FCS and add 100 μ l/well. Incubate for 1 hour at room temperature.
5. Wash plate as above (step C1).
6. Filter the ready-to-use substrate solution (BCIP/NBT-plus) through a 0.45 μ m filter and add 100 μ l/well. Develop until distinct spots emerge.
7. Stop color development by washing extensively in tap water. If desirable, remove the underdrain (the soft plastic under the plate) and rinse the underside of the membrane.
8. Leave the plate to dry. Inspect and count spots in an ELISpot reader or in a dissection microscope.
9. Store plate in the dark at room temperature.

Hints and Comments

These suggestions are based on the detection of immune responses using spleen cells. If using clones, mixtures of separated cell fractions etc., other protocols may have to be considered.

Plate washing

Washing of plates can be done using a multi-channel micropipette. In washing steps not requiring sterile conditions (C1-C5), a regular ELISA plate washer can also be used, provided that the washing head is adapted to the ELISpot plates.

Cells

Both freshly prepared and cryopreserved cells may be used in the assay. However it is recommended that the latter are rested for at least one hour to allow removal of cell debris before addition to the plate. An assay setup with triplicate wells is recommended. To measure antigen-specific responses, add 200,000-500,000 cells per well. The same cell number is recommended for polyclonal activators. Protocols with other incubation times have to be established by the user.

Serum

The serum should be selected to support cell culture and give low background staining. We recommend the use of fetal calf serum. Alternatively serum-free medium evaluated for cell culture can be used.

Assay controls

As a control for functionality of the assay, stimulate cells (200,000-500,000 cells per well) with a polyclonal activator, e.g., LPS (1 µg/ml) with mouse IFN-γ (10 ng/ml). In addition, include negative control wells with unstimulated cells, and wells with only medium.

Detection antibody

Diluted detection mAb can be filtered (0.2 µm) to reduce the risk of unspecific background.

Buffers

PBS for washing and dilution should be filtered (0.2 µm) for optimal results. Avoid the inclusion of Tween or other detergents in the washing and incubation buffers.

Substrate development

Development is made until distinct spots are visible in positive wells (usually 5-30 minutes). A general darkening of the membrane may occur during development but disappears after drying.

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