



The Enzyme Linked Immunospot (ELISpot) Assay is a versatile and highly sensitive method for ex-vivo analysis of protein secretion post cell stimulation. Virtue of its high sensitivity (1 cell in 100,000) the ELISpot assay enables frequency analysis of activated cell populations or antigen-specific cell responses at the single cell level and therefore can measure the magnitude of specific T-Cell immunity.

#### ELISpot methodology: when immunoassay meets bioassay

The ELISpot is a combination of both an immunoassay and bioassay. Living cells are cultured directly into the wells of the ELISpot plate, cells are stimulated and secreted protein captured and detected by sandwich immuno-enzyme technology. Diaclone ELISpot assays can detect both secreted cytokines and measure the frequency of single cells that simultaneously produce multiple cytokines or other effector molecules.



Living cells are cultured and stimulated directly in the wells of the ELISpot plate. Stimulation can be antigen specific or polyclonal.



Secreted target protein is captured and detected by an antibody sandwich similar to an ELISA.



Each spot within an ELISpot well identifies a single cell secreting the target protein. The colour or Fluorescence intensity and spot size is dependent on the volume of protein secreted

## ELISpot Applications: measurement of immune outcomes and treatment efficacy

Monitoring the immune responses of patients treated with immunotherapy is essential to evaluate the efficacy of treatment and correlate clinical responses to Cytotoxic T Lymphocyte responses. ELISpot assays are specific, accurate, sensitive, precise and robust. This bioassay is now recognized as the reference method to evaluate vaccine efficacy in clinical trials and has an ever expanding role in many Immunology related research and clinical fields.

Vaccine Development

- Assessment of vaccine efficacy to induce potent T-cell responses
- Antigen specific cytokine responses
- Novel vaccine adjuvants

Cancer

- Evaluation of the efficacy of novel Cancer Immunotherapies
- Investigation in changes in T-Cell populations during disease progression

Allergy

- Measurement of Th1 / Th2 cell responses
- Evaluation of the efficacy of novel allergen specific Immunotherapies

Autoimmune Disease

Secretory profile of T-Cells under conditions of autoimmunity

Transplantation

- Tool for prediciting post transplant rejection
- Quantification of frequency and cytokine profile of circulating donor reactive T-cells

#### Diaclone ELISpot: respected, reliable & flexible

Respected

- High sensitivity -detect a single cell out of 100,000
- Well focused, defined easy to analyse spots
- Fast procedure post cell stimulation
- Utilised in research applications through to support of large scale Clinical trials
- 28 years of Immunoassay and bioassay expertise

Reliable

- · Accuracy and reliability guaranteed.
- No cross reactivity with other cytokines tested
- Robust validation to ISO9001

Flexible

- Enzymatic or Fluorescent detection
- Human Dual ELISpot or Dual Fluorospot range: to monitor the production of two cytokines simultaneously in the same well
- Multiple assay formats and sizes available to best suit your needs
- Flexible supply and custom manufacture to meet your long term needs
- Diaclone offers bulk assay supply, custom manufacture and batch allocation to meet your long term study needs

### **Diaclone ELISpot Formats**

|   | Single Protein Detection                      |                                    |                                     |  | Dual Protein Detection   |   |
|---|---|------------------------------------|-------------------------------------|--|--|---|
|   | ELISpot Kits                                  |                                    | ELISpot Sets                        | ELISpot Pair                             | Dual ELISpot   | Dual Fluorospot   |
| Pre-coated PVDF Plates                      | •   |                                    |                                     |  |  |   |
| Without plates or with uncoated PVDF plates |   |                                    | •                                   |  | •  | •   |
| Capture Antibody                            |   |                                    | •                                   | •  |  |   |
| Detection Antibody                          | •   |                                    | •                                   | •  | •  | •   |
| Enzymatic detection reagents                | •   |                                    | •                                   |  |  |   |
| Fluorescence detection reagent              |   |                                    |                                     |  |  | •   |
| Available Sizes                             | different sizes available – please contact us |                                    |                                     |  | different sizes available - please contact us                                  |   |
| Human Specificities                         | IFNγ<br>IL-2<br>IL-13<br>TNFα                 | IL-1β<br>IL-12p70<br>CD178<br>IL-6 | IL-10<br>Perforin<br>IL-5<br>IL-17F | Granzyme B<br>IL-4<br>IL-17A<br>II-17A/F | IFNy / Perforin<br>IFNy / II-2<br>IFNy / IL-5<br>IFNy / IL-17A<br>IL-10 / IL-4 | IFNγ / Granzyme B<br>IFNγ / IL-4<br>IFNg / IL-10<br>IL-10 / IL-2<br>IL-17A / IL-4 |
| Murine Specificities                        | IFNY  | IL-2                               |                                     |  |  |   |
| Rat Specificities                           | IFNY  | TNFa                               |                                     |  |  |   |

# Take the leap and ask about Diaclone ELISpot

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