































































































## Covalab powerful immunoassays for the analysis of cytokine secretion from immune cells.


Covalab ELISpot (Enzyme-linked immunospot) products are high efficiency tools designed to perform specific quantitative and qualitative analysis of the secretion of cytokines and other soluble molecules by immune cells in close-to-in vivo conditions with minimal manipulation.

In our assays, cytokines are bound to neighbouring capture antibodies quickly after secretion, which limits diffusion into the supernatant, protease degradation and binding to membrane receptors, thus providing a very precise analysis of cytokine production at a single cell level.

According to your needs, Covalab provides various options, ranging from a high **flexibility** with a single pair of antibodies to capture and detect your cytokine, to a high **robustness** with the full package comprising antibodies, buffers and pre-coated plates.

Target	Pair	Set			Kit
		(plates not included)	(non-sterile plates)	(sterile plates)	
CD178					
Granzyme B					
IFN $\gamma$	  	  	  	  	  
IL-1 $\beta$					
IL-2	 	 	 	 	 
IL-4					
IL-5					
IL-6					
IL-10					
IL-12					
IL-13					
IL-17A					
IL-17F					
IL-17A/F					
Perforin					
TNF $\alpha$	 	 	 	 	 

 Human

 Mouse

 Rat

### Pairs

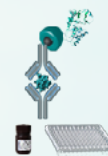
Minimal materials to design custom ELISpot assays in a very flexible way.



- Anti-cytokine capture antibody
- Anti-cytokine biotinylated detection antibody

### Sets

Basic materials to perform coating, capture, detection and revelation at low price.



- Anti-cytokine capture antibody
- Anti-cytokine biotinylated detection antibody
- Streptavidin-conjugated alkaline phosphatase
- Enzyme substrate (BCIP/NBT)
- Plates (upon request) / Coating solutions

### Dual Sets

Combination of two revelation methods to detect and quantify two cytokines in a single experiment.



- Capture antibodies (for each cytokine)
- Anti-cytokine 1 biotinylated detection antibody
- Anti-cytokine 2 FITC-conjugated detection antibody
- Streptavidin-conjugated alkaline phosphatase
- HRP-conjugated anti-FITC antibody
- Enzyme substrates (BCIP/NBT, TMB)
- Plates (upon request) / Coating solutions

(See next page)

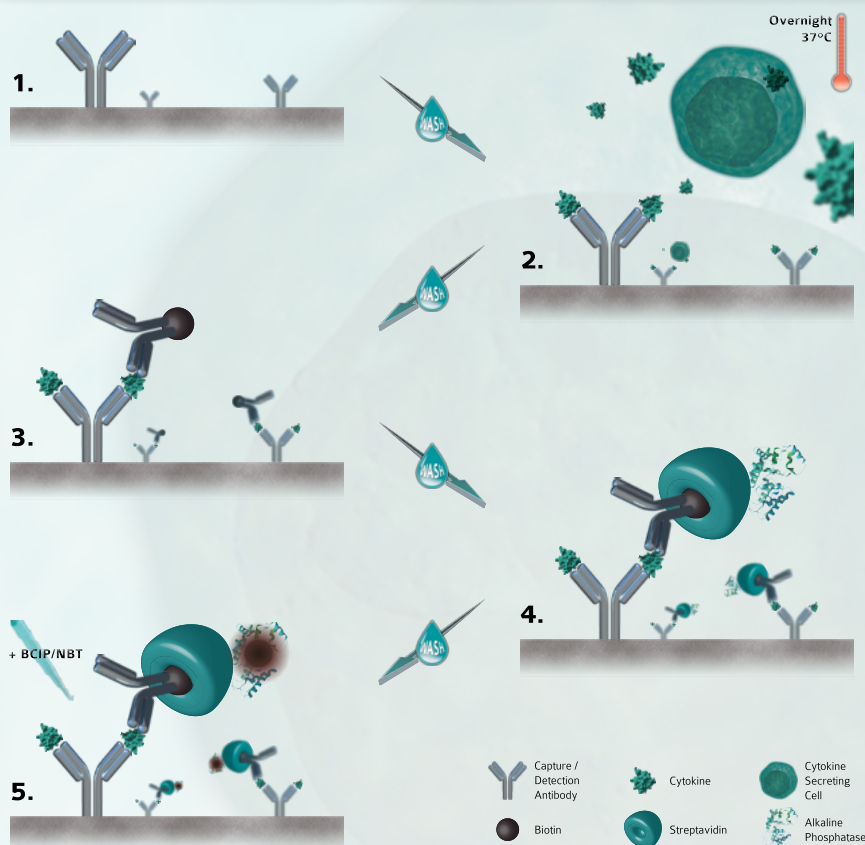
### Kits

Full package for reliable and reproducible assays with minimal manipulation.



- Anti-cytokine capture antibody
- Anti-cytokine biotinylated detection antibody
- Streptavidin-conjugated alkaline phosphatase
- Enzyme substrate (BCIP/NBT)
- Controls (when available) and buffers
- Pre-coated PVDF-bottomed plates

## ANALYTICAL PROCEDURE



**1**

The cytokine-specific capture antibody is coated onto the PVDF-bottomed 96-well microtitre plate (not required for pre-coated plates).

**2**

The cell suspension is added to the wells and incubated overnight at 37°C in a CO<sub>2</sub> incubator, allowing the coated antibody to capture the target cytokine while being secreted.

**3**

The biotinylated cytokine-specific detection antibody binds to the captured cytokine.

**4**

The alkaline phosphatase-conjugated streptavidin binds specifically to biotin.

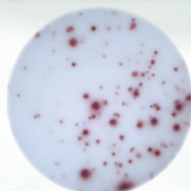
**5**

The BCIP/NBT substrate is added and turns into coloured spots which can be quantified either by an appropriate analysis software or manually by microscopy.

## RESULTS

Each spot in the well identifies a single cytokine-secreting cell. Spots should have dense dark centres and a light outer ring as a result of cytokine diffusion.

The colour intensity and spot size are correlated with the quantity of secreted cytokine.



**High sensitivity: 1 cell out of more than 100,000**

**Low background signal**

**Well-focused spots**

## DUAL ELISPOT SETS

### Human Dual Sets

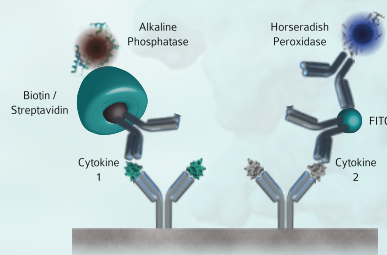
Cytokine 1	Cytokine 2
IFN $\gamma$	Granzyme B
IFN $\gamma$	IL-2
IFN $\gamma$	IL-4
IFN $\gamma$	IL-5
IFN $\gamma$	IL-10
IFN $\gamma$	IL-17A
IFN $\gamma$	Perforin
IL-2	IL-4
IL-2	IL-10
IL-4	IL-10

### Detect and quantify two distinct cytokines in the same experiment!

Covalab Dual ELISPOT sets allow you to easily identify two distinct cytokine-secreting cell populations and quantify their respective secretion within the same well, using high specificity labelled antibodies and a combination of two detection methods.

{ Biotinylated detection antibody  
 + Streptavidin-AP conjugate  
 + BCIP/NBT substrate

{ FITC-conjugated detection antibody  
 + HRP-conjugated anti-FITC antibody  
 + TMB substrate



Antibody Engineering

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