Antibody Labelling Services

Immuno-labelling

In order to detect and localise the chosen antigen at a particular site within a cell or tissue it is necessary to modify the antibody with a tag, bound to the antibody. This is known as immuno-labelling. Immunocytochemistry is the immuno-labelling process at a cellular or subcellular level and immunohistochemistry is the labelling of larger structures, such as tissues or organs.

Two commonly used methods of immuno-labelling are direct labelling and indirect labelling.

1. **Direct labelling** is where the primary antibody is directly labelled.
2. **Indirect immuno-labelling** is where a secondary antibody, that itself binds to the primary antibody, is labelled.

The indirect method offers greater specificity and sensitivity over the direct method, whereas the direct method is useful in minimising cross reactivity.

APS can offer a large choice of antibody labels including **enzymes**, **biotin/streptavidin and fluorescent labels**.

Enzymes

Enzymes are extremely useful and flexible tools for the detection of proteins in tissues, whole cells or lysates. Enzymes, such as horseradish peroxidase (HRP) and alkaline phosphatase (ALP), can be attached to antibodies and proteins to act as chromogenic signal-generating molecules. Their high flexibility in signal output and amplification results in enzymes being widely used for antibody labels for a range of applications.

- Alkaline Phosphatase
- Glucose Oxidase
- Horseradish peroxidase

Biotin/Streptavidin

Biotin is a useful label for protein detection, purification and immobilisation because of the unique binding properties. It readily binds to Avidin or Streptavidin proteins and is one of the strongest non-covalent interactions among protein-ligand interactions. Biotin is also a small molecule which results in a reduction of interference.

- Biotin
- Streptavidin

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Fluorescent labels

Fluorescent labels are widely utilised as they are able to generate a detectable light signal in response to excitation by a source light beam at a specific wavelength. Unlike other methods, fluorescent labels do not require additional reagents for detection and allow for a high degree of sensitivity. This makes fluorescent labelling extremely versatile for both *in vitro* and *in vivo* applications.

AMCA	DyLight® 550
DyLight® 350	Atto 565
Atto 390	DyLight® 594
DyLight® 405	Texas Red®
PerCP	DyLight® 633
PerCP/Cy5.5	Atto 633
DyLight® 488	FluoProbes647H
Fluorescein	Cyanine Dye 5 (Cy5)
R-Phycoerythrin	Allophycocyanin
PE/Texas Red	APC/Cy5.5
PE/Atto594	APC/Cy7
PE/Cy5	DyLight® 650
PE/Cy5.5	Cyanine Dye 5.5 (Cy5.5)
PE/Cy7	DyLight® 680
Atto 488	Atto 700
B-Phycoerythrin	DyLight® 755
Cyanine Dye 3 (Cy3)	DyLight® 800
Rhodamine	

Support

Antibody Production Services is a division of Life Science Group Ltd.

To learn more, contact us:

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