Flow cytometry is a laser-based, biophysical technology used to count, measure size, and detect properties of particles in suspension. A sample of suspended particles is separated through a narrow nozzle, and a laser enables detection of properties of individual particles in the sample.

Immunocytochemistry (ICC) is a technique for the visualization of proteins and peptides in cells. In ICC the extracellular matrix around the cells is removed and, by using an antibody linked to a reporter (e.g., a fluorophore), the sub-cellular localization may be seen through a microscope.

Antibodies, also known as immunoglobulins, are Y-shaped proteins, which are used by the immune system to identify and destroy foreign objects such as bacteria and viruses. The antibody recognizes a unique part of the foreign target, the antigen. The unique properties of antibodies are used in a wide range of therapeutic and research applications. This poster describes some of the most common techniques.

Immunohistochemistry is a microscopy based technique for visualizing cellular macromolecules, such as proteins, in complex tissues. By using specific antibodies to generate a colored precipitate in the tissue, a visual output of the existence and localization of the target molecule is generated.

Antibodypedia is a web-based knowledge resource with annotated and scored antibodies from commercial and academic providers. All information is free and accessible in the database. With the knowledge in Antibodypedia you have the power to select the right antibody for the right application.

Immunoprecipitation uses antibodies to isolate and concentrate a protein out of a solution containing thousands of proteins. A solid support is used to allow precipitation of the antibody-protein complex. An advantage is that the natural functionality of the native protein is preserved.

Immunosorbent methods use antibodies and reporters to detect a substance. A common technique is the “enzyme-linked immunosorbent assay” (ELISA) that uses an enzymatic reaction as reporter. The immunoassay format may be miniaturized on microarrays to allow multiplexing for multi-parameter analysis.

Immunoproteomics combines the use of antibodies and mass spectrometry to study large sets of proteins. Immuno-affinity enrichment may be used to reduce the large dynamic range in biological samples before MS-analysis. Immunoproteomics is a useful tool within quantitative proteomics.

Immunoelectron microscopy combines the use of antibodies and electron microscopy to study large sets of proteins. Detection of the antibody’s sub-cellular localization in the sample is made by conjugating the antibody with colloidal gold particles.

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