POWCLIN
普 康 医 学

EasyFLO
Full Spectrum Flow Cytometer

In order to meet the needs of routine testing in the laboratory and greatly improve the flow detection capability, EasyFLO full spectrum flow cytometer has been launched.
EasyFLO is integrated with the innovative achromic shaping optical path, full spectrum simultaneous acquisition, array sensor high-speed acquisition and other advanced technologies, supporting the high-precision injection pump sampling and the high-stability sample focusing capabilities based on the pulsation-free sheath-flow system. Combined with CytoPysual flow analysis workstation and the powerful software algorithms, the compensation problem caused by the overlap of fluorescence spectra is prevented, and a single-laser 15-channel 10-color multi-parameter analysis is realized for the researcher, satisfying 80% of the flow experiment needs in the laboratory.

Main technical parameters

Optical system

Innovative achromatic shaping optical path, fixed optical path, and high reliability

Laser configuration

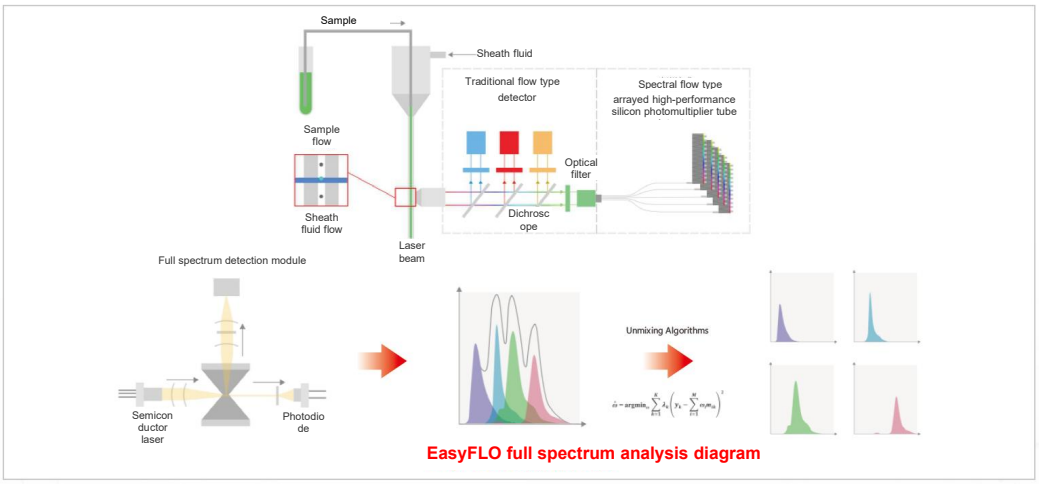
Single laser: 488 nm (15 channels)

Instrument performance

Resolution	CV < 3.0%
Cross-contamination rate of sample	<0.1%
Maximum detection speed	40,000 events/s
Signal processing	Dynamic range of 7 orders of magnitude
Fluorescence detection sensitivity	FITC sensitivity ≤ 30MESF, PE sensitivity ≤ 10MESF

Technical principle

Different from the traditional flow technology, EasyFLO full spectrum flow technology is used to divide all the signals of fluorescein into some light with narrow wavelength ranges, and the array-type high-performance silicon photomultiplier tube detector is used for the detection, to obtain the complete characteristic emission spectrum of each fluorescein, so as to distinguish different types of fluorescein. Based on the reference spectrum, the spectral analysis is carried out by weighted least square method, to obtain the corresponding fluorescence intensity of each fluorescein.

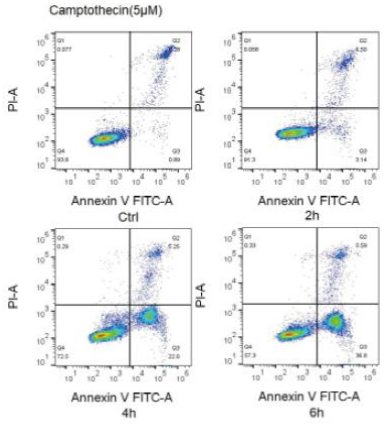


EasyFLO full spectrum analysis diagram

Application plan

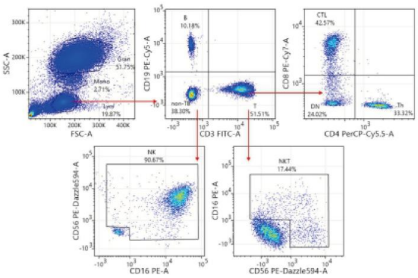
Apoptosis detection

Apoptosis is an orderly or programmed way of cell death. In the early stage, phosphatidylserine (PS) on the inside of the cell membrane migrates to the outside of the cell membrane. Annexin V is a calcium-dependent phospholipid binding protein with a high binding capacity to PS. Annexin V can therefore be used as a probe to detect PS exposed outside of the cell. Annexin V is marked with fluorescein (e.g. FITC), the PI staining rejection method is used for the double staining of the apoptotic cell, and then the flow cytometer can be used to detect the apoptotic cell.



488-nm single laser 6-color immunophenotyping plan

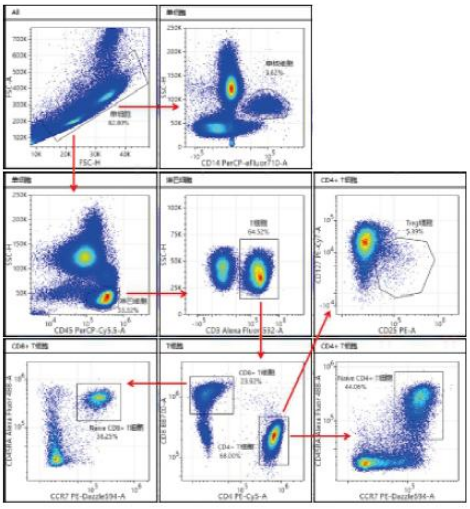
Lymphocytes are the key effector cells of the immune system, maintaining human health through immune defense, immune surveillance and immune homeostasis. Lymphocyte subsets with different functions can be distinguished and their relative proportions can be obtained by binding the monoclonal antibodies marked with fluorescent dyes to antigens on the surface of lymphocytes.



FITC	PE	PE-Dazzle594	PE-Cy5	PerCP- Cy5.5	PE-Cy7
CD3	CD16	CD56	CD19	CD4	CD8

488-nm single laser 9-color immunophenotyping plan

T cells in peripheral blood generally account for 60-80% of the total lymphocytes. T cells are a highly heterogeneous cell population that can be classified into different categories and subpopulations. Treg is a subset of CD4+T cells with significant immunosuppressive action, accounting for 1%-2% of peripheral blood lymphocytes. In the body, Treg achieves the self-tolerance and maintain immune balance by inhibiting the immune response of other cells. Lymphocyte subsets with different functions can be distinguished and T cell subsets, function, and immune checkpoint molecules on T cells can be studied by binding the monoclonal antibodies marked with fluorescent dyes to antigens on the surface of lymphocytes.



AF532	AF488	PE-Cy5	PE-Dazzle594	PerCP-eFluor710
CD3	CD45RA	CD4	CCR7	CD14
PerCP-Cy5.5	**PE-Cy7**	**PE**	**BB700**	
CD45	CD127	CD25	CD8	

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