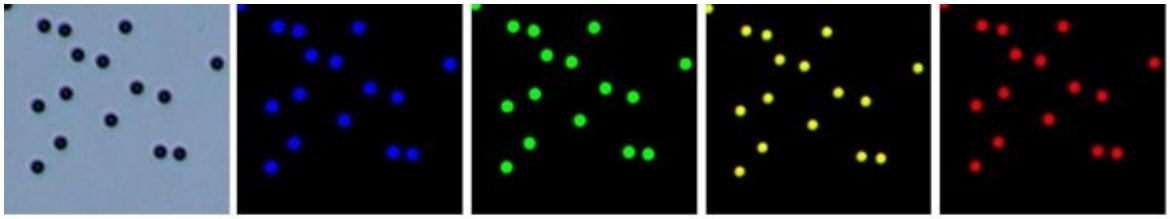
Datasheet

Countstar® Rigel S6

Advanced Image Cytometer

Product feature

Up to 4 fluorescent channel and one bright field analysis in the same time



BF	Ex:378nm Em:445nm	Ex:480nm Em:535nm	Ex:480nm Em:580nm	Ex:535nm Em:615nm

13 different fluorescent analysis combinations

Specification	Excitation LED	375	480	525	620
Detectors	460/50	●			
	535/40	●	●		
	580/25	●	●	●	
	600LP	●	●	●	
	665LP	●	●	●	●

375nm	460nm	DAPI, Hoechst, BFP
375nm	535nm	Amcyan, Brilliant Violet™ 510
375nm	580nm	Pacific Orange™, Brilliant Violet™ 570
375nm	600LP	Qdot® 605
375nm	665LP	Brilliant Violet™ 650
480nm	580nm	PE
480nm	665LP	PC5, PC5.5, PerCP/PerCP-Cy5.5, PI, 7-AAD
525nm	580nm	PI
525nm	665LP	7-AAD, Nile Red, Alex Fluor 647-PE
625nm	665LP	APC, Alex Fluor 647, Alex Fluor 660

User Friendly Cell Analysis Protocols

- Trypan blue Protocols:Obtain cell count, viability and concentration estimations based on trypan blue staining using a disposable consumable.
- AO/PI Viability Protocol: Run two fluorescence color assays in disposable consumable to determine the percentages of live, dead cells and concentration in the presents of debris and unwanted nonnucleated

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cell types including red blood cells.

- Affinityof Antibody:This assay run as Green color assays in FITC binding antibody to determine the affinity of the biosimilar drug.
- Surface Marker Assay:Quantify specific cell populations based on surface marker expression (CD45+ CD4+, CD8 + MSC, CD56+ NK cells, etc.)
- Cell Cycle:Propidium iodide (PI) is a nuclear staining dye that is frequently applied in measuring cell cycle. The protocol determining cellular DNA content in cell cycle analysis
- Cell Apoptosis:Cell Apoptosis assay is a type used for determining the apoptosis percentage of cells by Annexin V-FITC/7-ADD staining method.
- GFP transfection:The green fluorescent protein (GFP) exhibits bright green fluorescence when exposed to light in the blue to ultraviolet range. This protocol can analyze counting and percentage of GFP.
- Celling Killing:Run three fluorescence color assays in disposable consumable to determine the CAR T/NK-Mediated Cytotoxicity using Tracer and Viability Dyes

GMP and 21 CFR part 11 ready
Make a detailed record of any changes, edits, deletions, adjustments, etc. Electronic records cannot be deleted, including administrators. Electronic records include date, time, user name, machine serial number, and user's actions

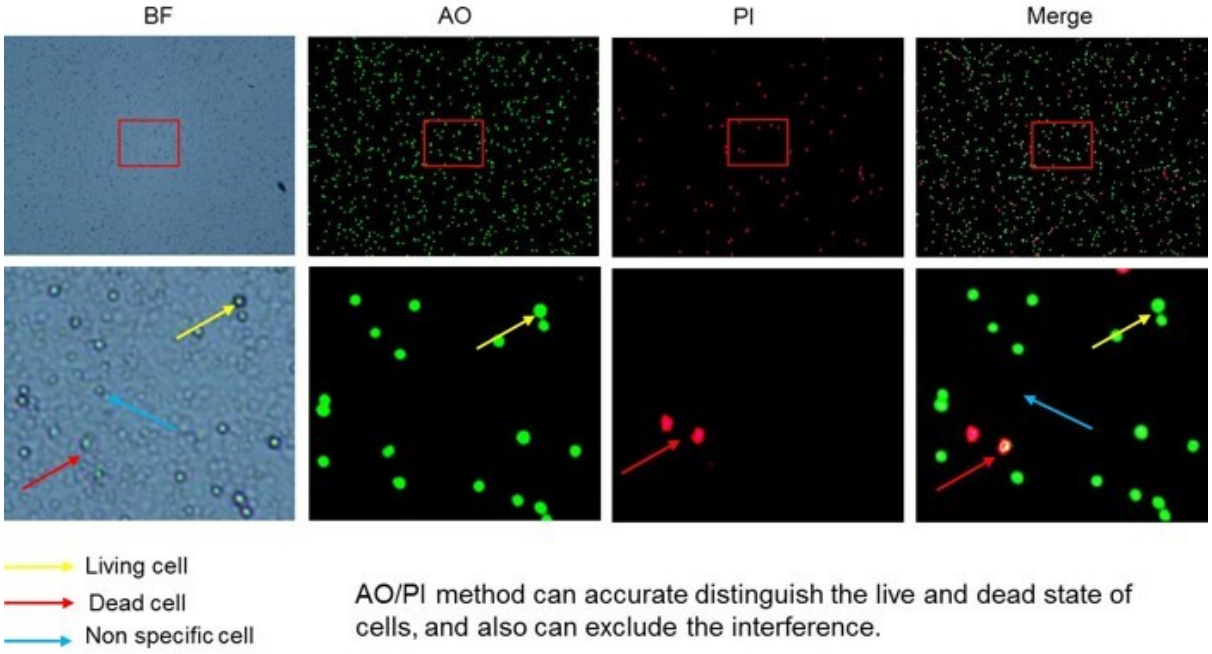
FCS Express Software
The optional DeNovoTMFCS Express software makes graphs touchable and customizable fluorescence channel boost your experiment reach. Countstar Rigel S6 together with FCS Express is able to analyze for the cell apoptosis, cell cycle, transfection, affinity of antibody, CD marker and etc.

Specifications

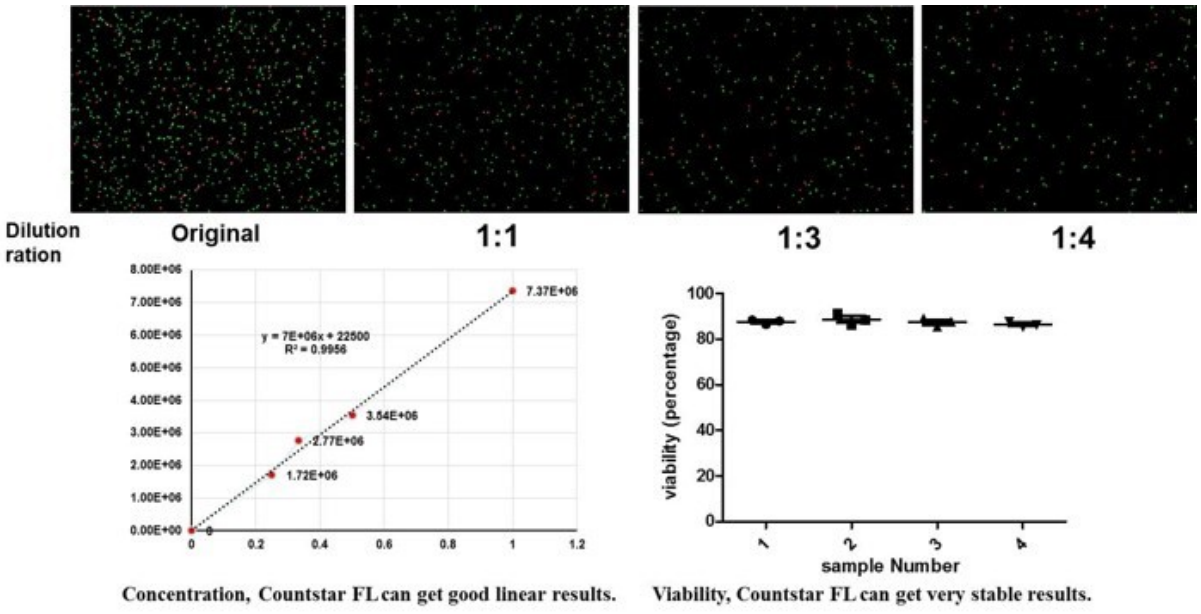
Technical Specifications	
Model:	Countstar Rigel S6
Diameter range:	3μm ~ 180μm
Concentration range:	1×104 ~ 3×107/mL
Objective magnification:	5x
Imaging element:	1.4 megapixel, CCD camera
Excitation Light	480nm, 525nm, 375nm, 620nm
Emission Filter	460nm, 535nm, 580nm, 600LP, 665LP
USB	1×USB 3.0 1×USB 2.0
Storage:	500GB
Power supply:	110–230 V/AC, 50/60Hz
Screen:	10.4 inch touchscreen
Weight:	13kg (28lb)
Size (W X D X H):	Machine: 254×303×453mm Package size: 430×370×610mm
Operating temperature:	10ºC ~ 40ºC
Working humidity:	20% ~ 80%

Applications

Dual-Fluorescence Viability
Acridine orange (AO) and Propidium iodide (PI) are nuclear nucleic acid binding dyes. The analysis excludes cell fragments, debris and artifacts particles as well as undersized events such as platelets, giving a highly accurate result. In conclusion, the Countstar system can be used for every step of the cell manufacturing process.



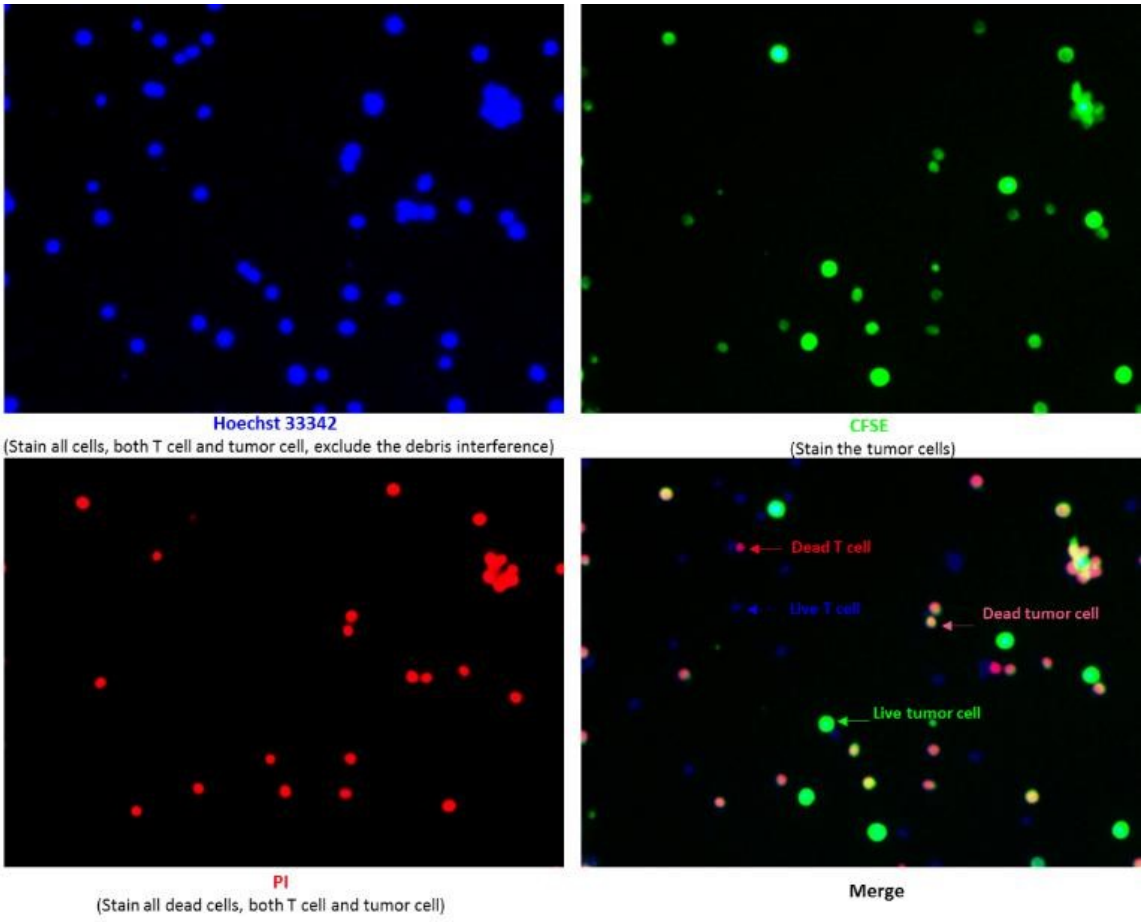
AO/PI method can accurate distinguish the live and dead state of cells, and also can exclude the interference.



Concentration, Countstar FL can get good linear results.

Viability, Countstar FL can get very stable results.

T/NK cell mediated cytotoxicity
By labeling the target tumor cells with CFSE or transfect with GFP. Hoechst 33342 is used for stain all cells (both T cells and tumor cells), alternatively, target tumor cells can be stained with CFSE, PI is used for stain the dead cells (both T cells and tumor cells). This staining strategy allows for the discriminate of different cells.




Live tumor cell: Hoechst 33342+CFSE+PI-

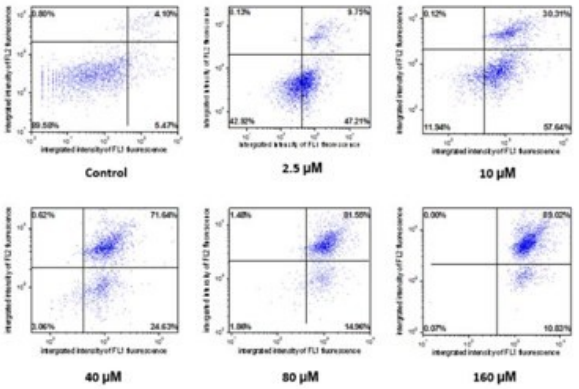

Dead tumor cell: Hoechst 33342+CFSE+PI+

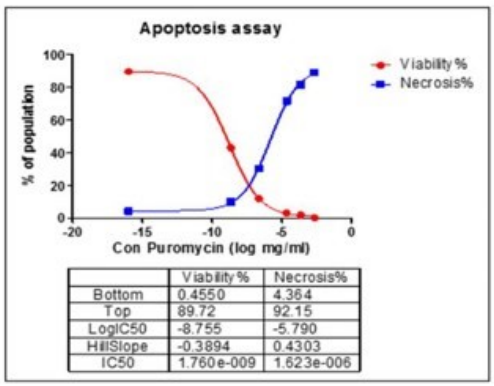

Live T cell: Hoechst 33342+CFSE-PI-


Dead T cell: Hoechst 33342+CFSE-PI+

Cell Apoptosis

The different phases of apoptosis are segmented into an early, middle and late stage. Specified indicators can document the single stages of apoptosis. The Countstar® Rigel S6 offers a visualized image-based solution and analyzes all of these steps with pre-loaded protocols in depth.





	Viability %	Necrosis%
Bottom	0.4550	4.364
Top	89.72	92.15
LogIC50	-8.755	-5.790
HillSlope	-0.3894	0.4303
IC50	1.760e-009	1.623e-006

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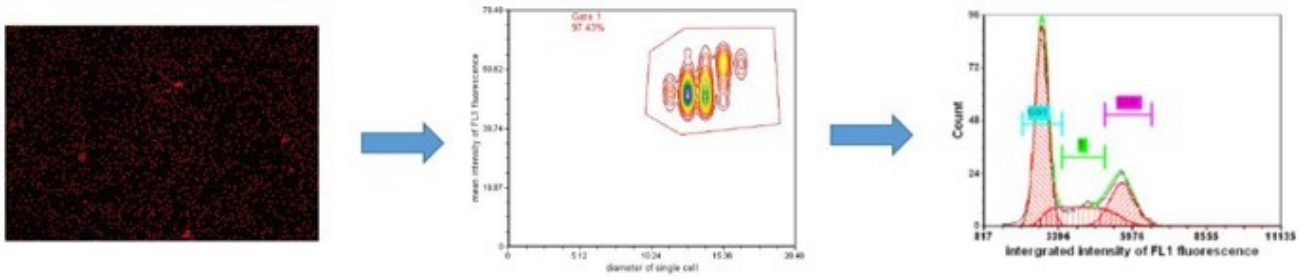
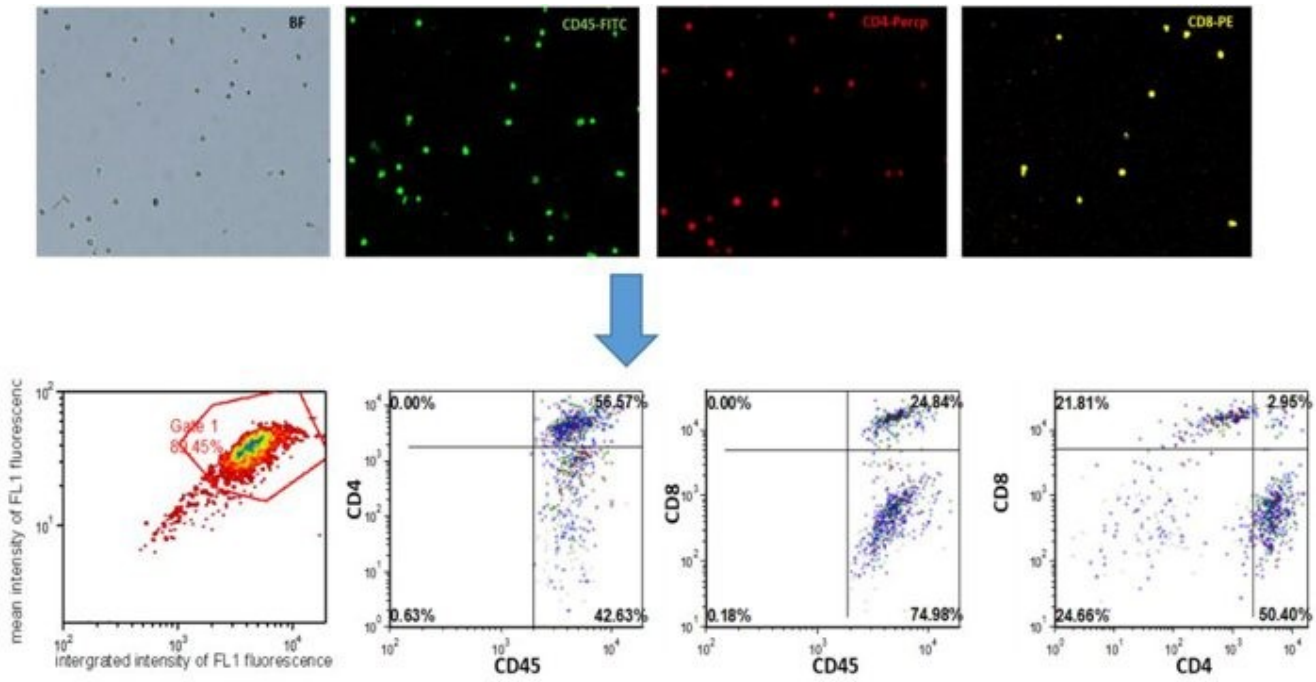
Cell Cycle

Countstar Rigel S6 enables users to get the result of a cell cycle quickly and accurately. Counstar Rigel S6 can analyze proportion of cell in different phase of the cell cycle.



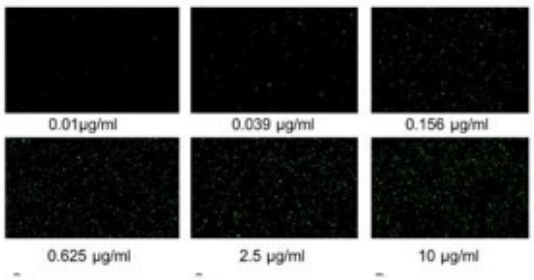
Surface Maker Analysis

A lymphocyte subsets analysis is a typical experiment performed in cell related research fields and various diseases diagnosis. Countstar® Rigel S6 offers a faster and easier way to make immune cell typing more efficient. With visible cell images and powerful data analysis.

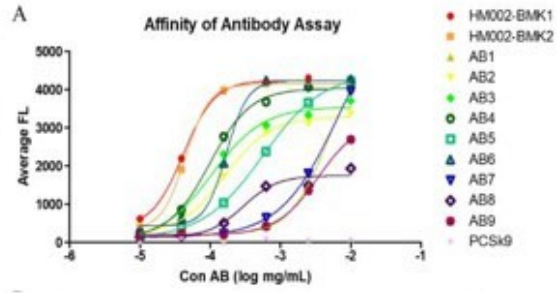


Affinity of antibody

Detect affinity of antibody in cell level is an important indicator of monoclonal antibody detection using immunofluorescence method.The Countstar® Rigel S6 offers a rapid, direct and reliable evaluating method for the affinity of antibody detection in antibody drug screening



Fluorescent Images of different concentration of AB4 treated CHO cells



Average fluorescence intensity in different antigen-antibody reactions varied with different concentrations of antibodies

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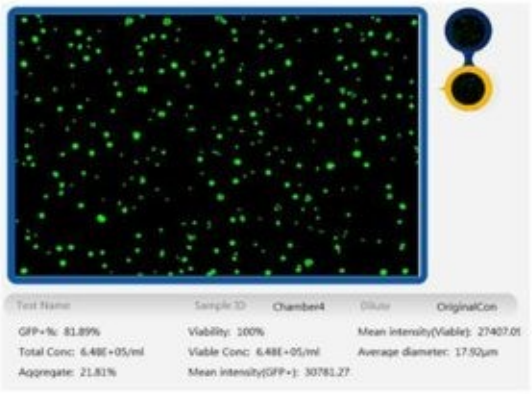
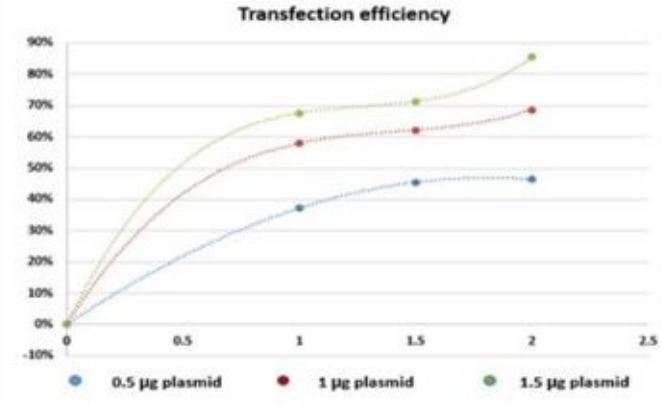
GFP Transfection Efficiency

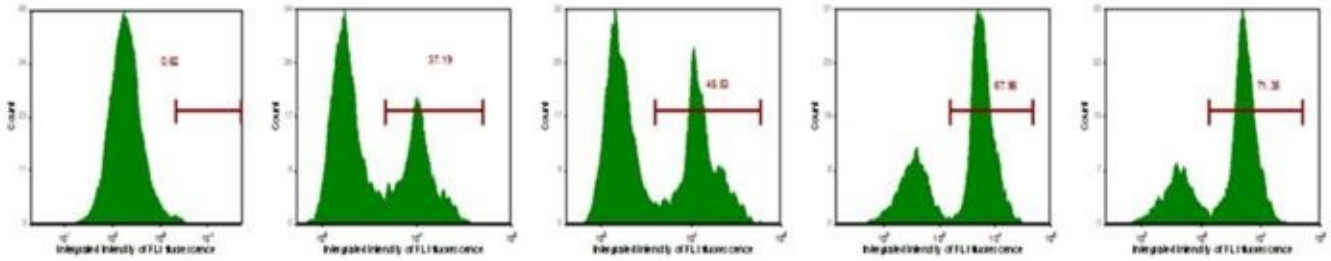
In cell and molecular biology, the GFP gene is frequently used as a reporter of expression. Currently, scientists are commonly using the fluorescent microscopes or flow cytometers to analyze the transfection efficiency of mammalian cells. But Flow cytometer requires a high-qualified and experienced operator. While Countstar Rigel S6 enables users to get the result of a transfection efficiency assay quickly and accurately.



Screenshot of result on Countstar FL



Transfection efficiency of 3 concentrations of plasmid



FCS express analysis results of transfection

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