

フローサイトメーターとセルソーターの活用法 (実習・英語/日本語)
Cytometry and Fluorescence Activated Cell Sorter (Practice in English/Japanese)

朝比奈 欣治・山元 武文・森 康博・寺戸 勲雄・平野 楓佳 (実験実習支援センター)

協力：日本ベクトンディッキンソン株式会社

Kinji Asahina, Takefumi Yamamoto, Yasuhiro Mori, Tokio Terado, Fuka Hirano (Central Research Laboratory)

Collaborator: Nippon Becton Dickinson Company, Ltd.

フローサイトメーターは個々の細胞の分子の発現を半定量的に測定できる装置である。装置は解析専用のアナライザーと解析分取が可能なセルソーターの2機種があり、分子の発現の同定には蛍光色素で認識された抗体がよく用いられる。更に標識抗体以外の蛍光物質を測定する事も試みられている。

今回は実習として、機器更正用ビーズを用いて、FACSにて検出する

●実習内容：

機器更正用ビーズを用いて、FACSにて検出します。アナライザーのBD LSRFortessaX-20、BD FACSCanto II とセルソーターのBD FACSAria Fusion の3機種を用いて解析を行います。

Flow cytometer is a device that can semi-quantitatively measure the expression of individual cell molecules. There are two types of devices, an analyzer and a cell sorter. Antibodies recognized by fluorescent dyes are often used to identify the expression of molecules. It has also been attempted to measure fluorescent substances other than labeled antibodies.

As a practical training, we detected with FACS using beads for flow cytometer setup.

* FACS (fluorescence activated cell sorter) is a trademark of Becton, Dickinson and company.

Practice content:

Beads for flow cytometer setup are detected with FACS.

We will analyze using three instrument, analyzer BD LSRFortessaX-20 and BD FACSCanto II, and cell sorter BD FACSAria Fusion.

【Practice】 Time schedule

1. 17:00 – 18:20 Practice (細胞工学実験室1、2、4)

Explanation of instrument

Data acquisition and analysis

Practice will be done in 3 groups and 2 instruments in turn.

Group A; LSRFortessa (17:00–17:40) → AriaFusion (17:40–18:20)

Group B; Canto II (17:00–17:40) → Aria (17:40–18:20)

Group C; Aria (17:00–17:40) → Canto II (17:40–18:20)

The aim for today's practice is to learn about the settings and analysis for FACS.

We want you to know that FACS is a useful and easy instrument.

■ Practice

Samples to measure;

Samples are prepared in the tubes as shown below.

Adjust the voltage/compensation for settings.

Analyze the percentage of PE positive Beads.

Tube NO.	1	2	3	4	5
label	Unlabeled	Unlabeled FITC	Unlabeled PE	Unlabeled APC	Unlabeled FITC PE APC
Unlabeled	○	○	○	○	○
FITC		○			○
PE			○		○
APC				○	○