

Intracellular Ca²⁺ Measurement System (Measurement when Thrombin was added as agonist)

INTRODUCTION

By measuring intracellular Ca²⁺, the activation of cell membrane receptors by an agonist can be confirmed and thus, intracellular Ca²⁺ measurement is used for the studies of living species and medical products. Chinese hamster lung fibroblast cells (CHL) were cultured and the agonist-induced activity in the cultured cells was measured.

* Agonist: An activator which acts on receptor molecules in a living body. It has functions similar to those of neurotransmitters and hormones.

SAMPLE

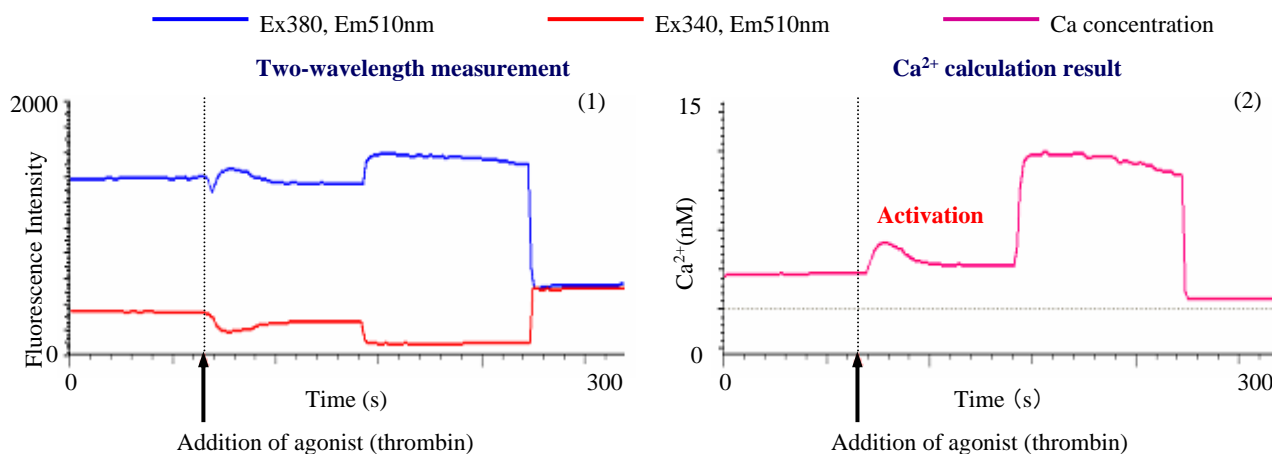
SAMPLE NAME : CHL-cells (Dainihonsumitomoseiyaku, Osaka, Japan)	REAGENT : 1mM Fura2-AM DMSO solution (Dojin, Kumamoto, Japan)
AGONIST : Thrombin from bovine plasma, 10units/10mL (10000units, Itohamu, Hyogo, Japan)	: 10% Triton X-100 : 100 mM EGTA (pH9.3)

INSTRUMENT CONDITIONS

INSTRUMENT	: F-7000	EX BANDPASS	: 5 nm
EX WAVELENGTH 1	: 380 nm	EM BANDPASS	: 5 nm
EM WAVELENGTH 1	: 510 nm	RESPONSE	: Auto
EX WAVELENGTH 2	: 340 nm	PHOTOMULTIPLIER	: R3788
EM WAVELENGTH 2	: 510 nm	PHOTOMULTIPLIER VOL.	: 700 V

ACCESSORY

Accessory for intracellular calcium analyzer (P/N 5J0-0125)



Spectrum of CHL with the addition of thrombin: (1) Change in fluorescence intensity (2) Calculated Ca²⁺ value

NOTE

- Using reagent for intracellular Ca²⁺ measurement, Fura2-AM, Ca²⁺ was measured using two-wavelength (Ex340nm, Em510nm and Ex380nm, Em510nm) calculation.
- From the converted result of Ca²⁺ concentration, it was confirmed that CHL expresses thrombin receptor.
- Refer to technical data FL No.45 for the conversion of Ca²⁺ concentration.

KEY WORDS

Fluorescence, Fluorescence Spectrum, Intracellular Ca²⁺, CHL, EGF, Two-wavelength Measurement, Calcium, FL, F-7000

Fluorophotometer (FL)

Sheet No. FL070002-01

Intracellular Ca²⁺ Measurement System (Measurement when EGF was added as agonist)

INTRODUCTION

By measuring Intracellular Ca²⁺, the activation of cell membrane receptors by an agonist can be confirmed and thus, intracellular Ca²⁺ measurement is used for the studies of living species and medical products. Chinese hamster lung fibroblast cells (CHL) were cultured and the agonist-induced activity in the cultured cells was measured.

* Agonist: An activator which acts on receptor molecules in a living body. It has functions similar to those of neurotransmitters and hormones.

SAMPLE

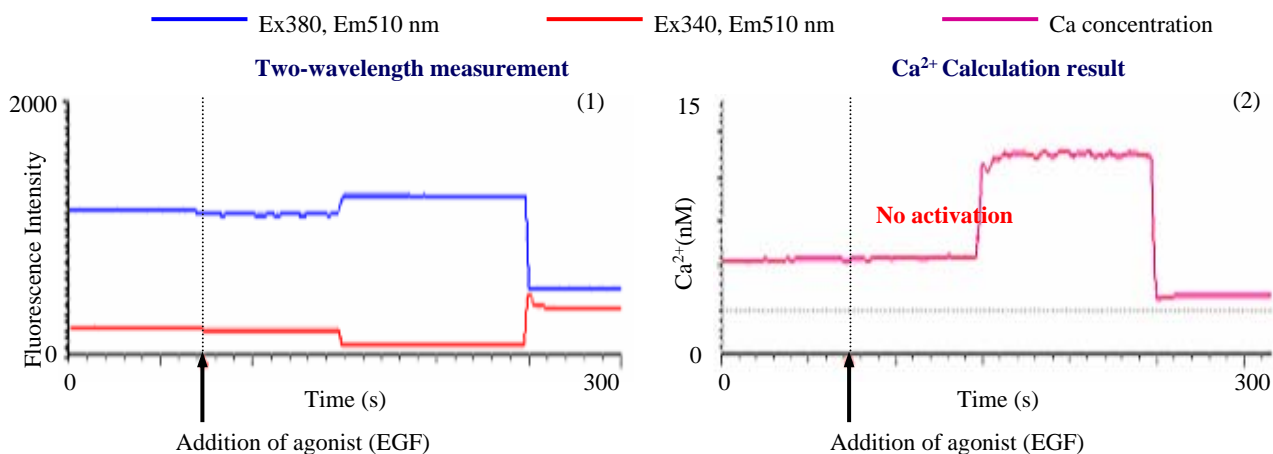
SAMPLE NAME : CHL-cells (Dainihonsumitomoseiyaku, Osaka, Japan)	REAGENT : 1mM Fura2-AM DMSO solution (Dojin, Kumamoto, Japan)
AGONIST : rhEGF (Recombinant human epidermal growth factor) >10 ⁷ units/mg, Wako, Osaka, Japan), 10 ⁴ units/10mL	: 10% Triton X-100 : 100 mM EGTA (pH9.3)

INSTRUMENT CONDITIONS

ACCESSORY

INSTRUMENT : F-7000	EX BANDPASS : 5 nm
EX WAVELENGTH 1 : 380 nm	EM BANDPASS : 5 nm
EM WAVELENGTH 1 : 510 nm	RESPONSE : Auto
EX WAVELENGTH 2 : 340 nm	PHOTOMULTIPLIER : R3788
EM WAVELENGTH 2 : 510 nm	PHOTOMULTIPLIER VOL. : 700 V

Accessory for intracellular calcium analyzer (P/N 5J0-0125)



Spectrum of CHL with the addition of EGF: (1) Change in fluorescence intensity (2) Calculated Ca²⁺ value

NOTE

- Using reagent for intracellular Ca²⁺ measurement, Fura2-AM, Ca²⁺ was measured using two-wavelength (Ex340nm, Em510nm and Ex380nm, Em510nm) calculation.
- From the converted result of Ca²⁺ concentration, no expression of EGF receptors was found in CHL.
- Refer to technical data FL No.45 for the conversion of Ca²⁺ concentration.

KEY WORDS

Fluorescence, Fluorescence Spectrum, Intracellular Ca²⁺, CHL, EGF, Two-wavelength Measurement, Calcium, FL, F-7000

Fluorophotometer (FL)

Sheet No. FL070002-02