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JAPAN MADE QUALITY

iPS/ES cells specific monoclonal antibody

iPSelector

<Anti-Human LNFP I, Mouse-Mono, clone R-17F>

For more information : http://www.funakoshi.co.jp/exports_contents/80958

iPSelector is a mouse monoclonal antibody, which specifically recognizes iPS/ES cells

Background of iPSelector (Clone R-17F)

SSEA-3, SSEA-4, TRA-1-60, and TRA-1-81 antibodies are well-known as human iPS/ES cell-marker antibodies. Since SSEA-3 antibody was originally generated against mouse embryo and the other antibodies were against human EC cells. These antibodies recognize not only human iPS/ES cells but also human EC cells. Our R-17F is a novel mouse monoclonal antibody generated by using a human iPS cell line as an immunogen. It is specific to human undifferentiated iPS/ES cells and does not essentially cross-react against human EC cells (Table, ref. 1).
This R-17F antibody (iPSelector) also stains entire surface of human iPS/ES cell membranes evenly, while the staining by SSEA-3 and SSEA-4 antibodies are not uniform (ref. 2).
In addition, R-17F is reported to exhibit potent dose-dependent cytotoxicity against undifferentiated human iPS/ES cells (ref. 2 & 3). R-17F is a beneficial tool for the selective detection, staining and removal of human undifferentiated iPS/ES cells in regenerative medicine.
This antibody has been commercialized under a license from Ritsumeikan University.

Reference :
1. Kawabe, K., *et al., Glycobiology*, **23**, 322 (2013).
2. Matsumoto, S., *et al., J. Biol. Chem.,* **290**, 20071 (2015).
3. Nakao, H., *et al., Glycoconj. J.,* **34**, 779 (2017)

Features and comparison with other antibodies for iPS/ES/EC cells

- Specific for undifferentiated human iPS/ES cells.
- Uniformly stain cell membrane of human iPS/ES cells.
- Can be used for removing undifferentiated human iPS/ES cells by cytotoxic effect.
- Subclass : IgG1

Cells	R-17F	TRA-1-60	TRA-1-81	SSEA-3	SSEA-4
Epitope	Glycolipid	Keratan sulfate		Globoside	
Tic (iPS)	++++	++++	++++	++++	++++
KhES-3 (ES)	+++	++++	++++	+++	++++
H9 (ES)	++++	++++	++++	+++	++++
2102Ep (EC)	+/-	++++	++++	+++	+++

Product Information

[Manufacturer : FNA]

Product Name	Size	Catalog #	Storage
iPSelector <Anti-LNFP I, Human, Mouse-Mono(R-17F)>	25 µL	FDV-0014A	-20 ℃
	100 µL	FDV-0014B	

Application Data

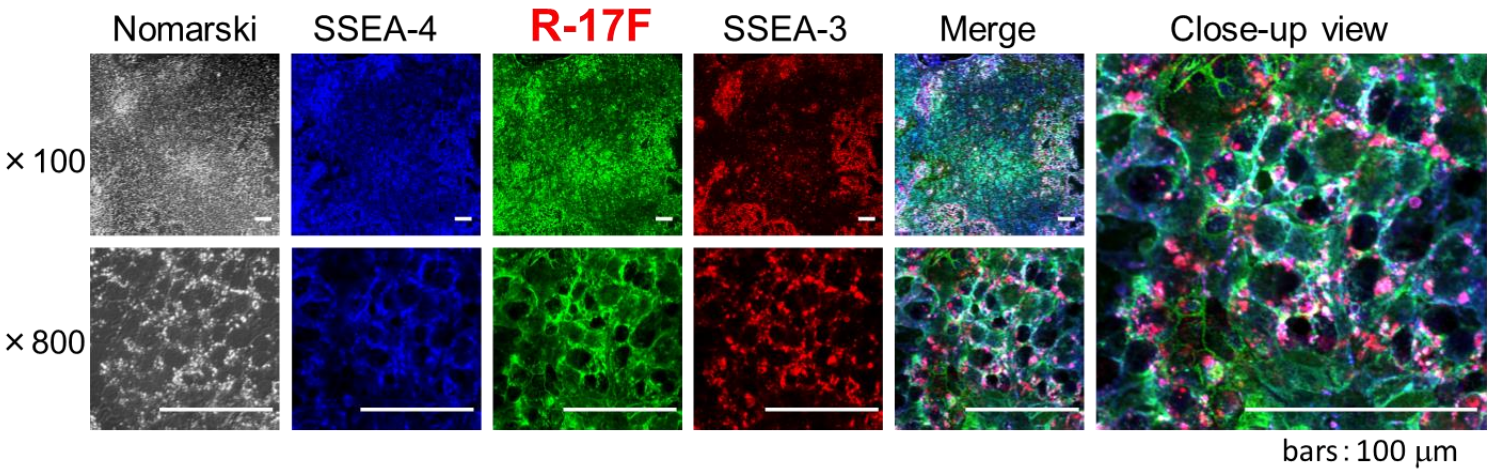

Fig.1 Cultured human iPS cells stained with R-17F, SSEA-3, and SSEA-4 antibodies.
R-17F stains entire surface of the cell membranes evenly. However, staining by SSEA-3 and SSEA-4 are not even. This suggests that R-17F epitope is expressed ubiquitously all over the human iPS cells.

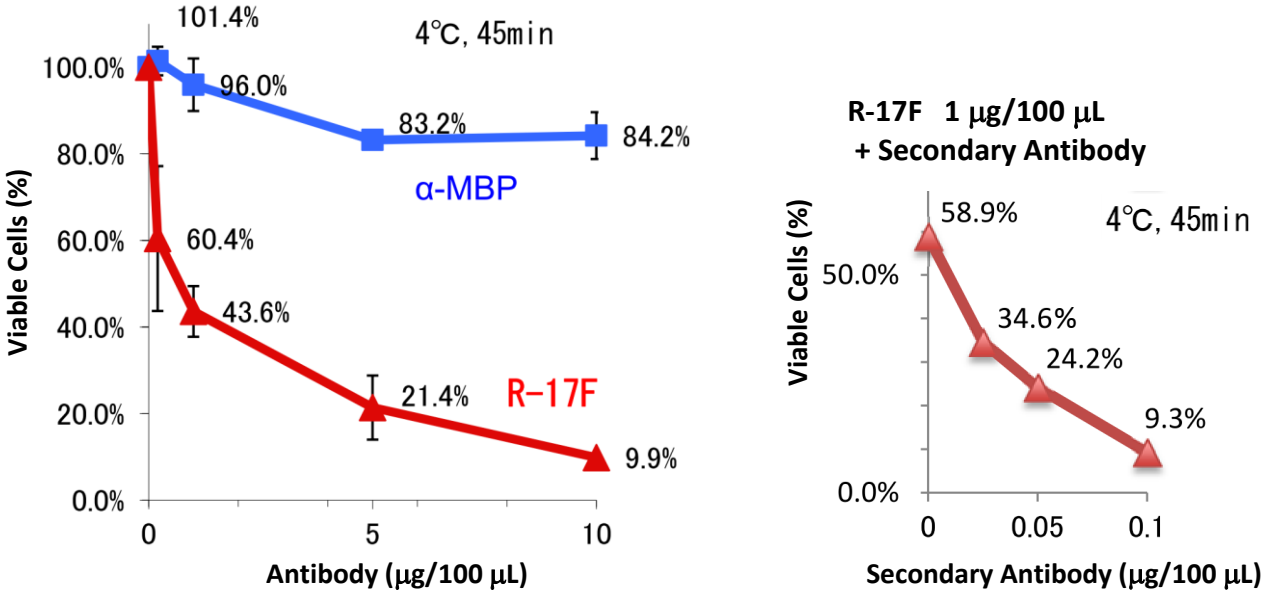

Fig.2 Dose-dependent cytotoxicity when added to living human iPS/ES cells.
[Left] After the incubation of iPS cell suspension with R-17F at 4℃ for 45 minutes.
▲ : The percentage of viable cells decreased concentration-dependently.
■ : Isotype matching negative control antibody (anti-α-MBP) does not show cytotoxicity.

[Right] When R-17F-treated iPS cells were incubated with a small amount (0.025-0.1 μg) of the secondary antibody (goat anti-mouse IgG1 antibody), the cytotoxic effect of R-17F was enhanced significantly in a dose-dependent manner (red triangles).

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