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2023 8 23 7 24

2023 8 22

ES [1] [2] Nanog Oct4 1 ES

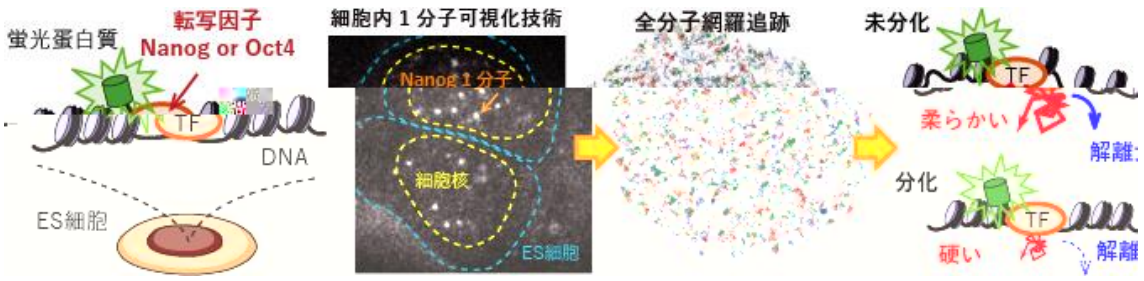
iPS [3]

ES
Nanog Oct4 ES

Nanog Oct4 [4]

1
ES Nanog Oct4 1
DNA
Nanog DNA
Nanog Oct4 ES

The EMBO Journal 8 23
8 23



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2023 8 23 7 24

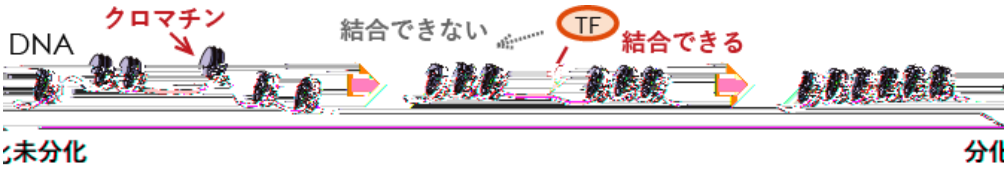
ES

Nanog Oct4
Oct4 iPS
Nanog
iPS

iPS
ES iPS

Nanog Oct4
ES
DNA
1

1
Nanog Oct4 Nanog Oct4



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DNA TF
ES

Nanog Oct4 1 Nanog Oct4
[5]

[6] Nanog Oct4
ES

1 HILO [7]
1 ES

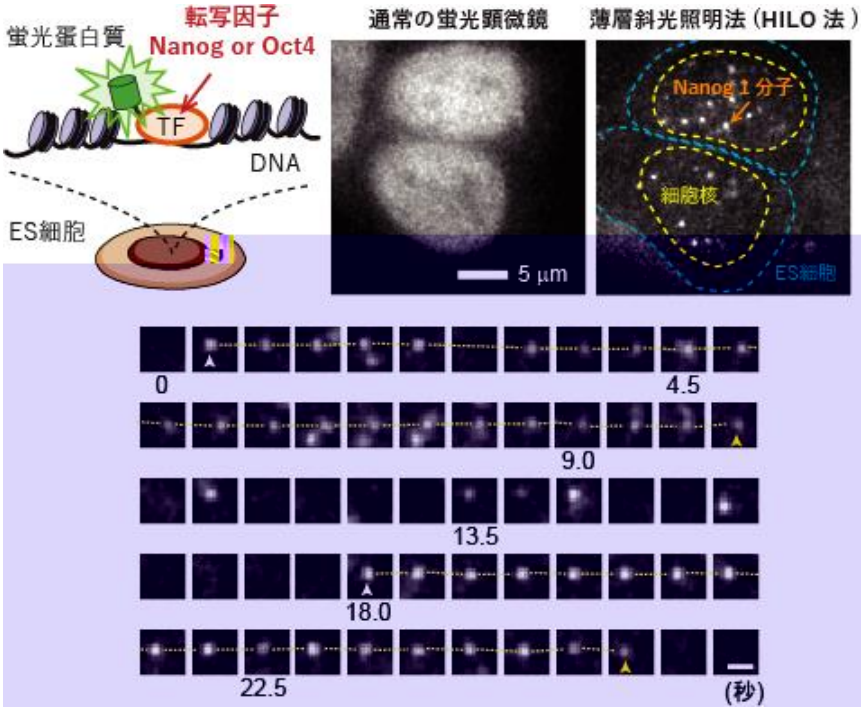
1 2

[8]

Nanog Oct4

Nanog

Oct4 2



2 Nanog Oct4 1

HILO

TF

ES HILO

Nanog

1

Nanog DNA

1

μm 1μm 1,000 1mm

[9]

ES

ES 2

Nanog Oct4 2

1 500 2,000

4,000 500

1 SMT [10]

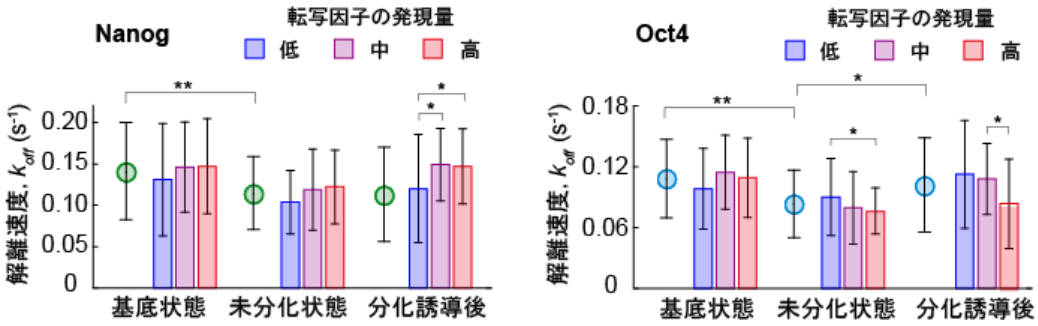
2023 8 23 7 24

ES Nanog Oct4
Nanog Oct4 Nanog Oct4

Nanog

3
Nanog
3 Nanog
Nanog

Oct4 Nanog
Nanog 3



3 Nanog Oct4

k_{off} Nanog

Nanog

k_{off} Oct4 Oct4

DNA

DNA

4

ES

4 Nanog
Oct4
4 Oct4
DNA

2023 8 23 7 24

4

DNA

Nanog Oct4 Nanog

Oct4

DNA

1 Nanog Oct4

DNA

Nanog Oct4

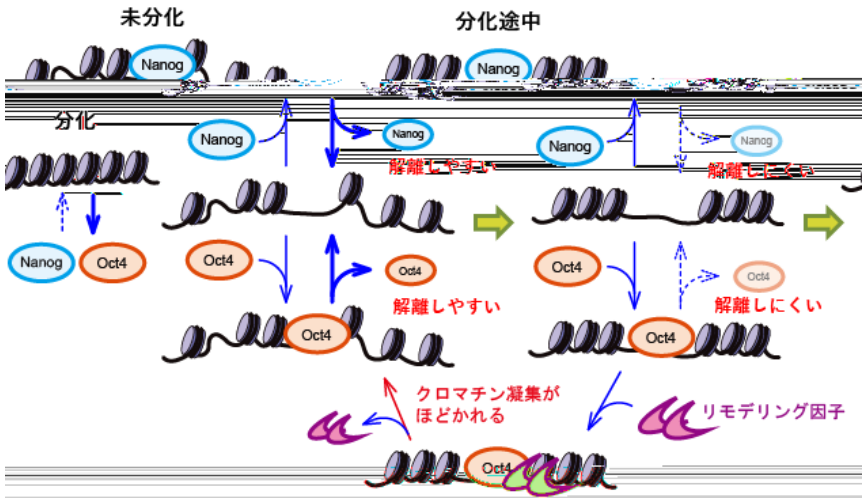
5

2023 8 23 7 24

Nanog Oct4 6

Nanog Oct4
Nanog Oct4 6
ES DNA
DNA Nanog
Nanog
DNA

Oct4
DNA
Oct4 DNA
Oct4
[11]
[11]
ES Nanog [12]
Nanog
Nanog



6 Nanog Oct4
Nanog Oct4
Nanog Oct4
Oct4
Nanog Oct4 ES

1 Tokunaga M, Imamoto N, Sakata-Sogawa K. Highly inclined thin illumination enables clear single-molecule imaging in cells. *Nat Methods*. 5, 159-161 2008 .

Nanog Oct4

ES iPS
ES iPS
ES/iPS

1
1 1

Nanog Oct4
Oct4 Oct4

Single-molecule tracking of Nanog and Oct4 in living mouse embryonic stem cells uncovers a feedback mechanism of pluripotency maintenance

Kazuko Okamoto, Hideaki Fujita, Yasushi Okada, Soya Shinkai, Shuichi Onami, Kuniya Abe, Kenta Fujimoto, Kensuke Sasaki, Go Shioi, Tomonobu M Watanabe

The EMBO Journal
DOI
10.15252/embj.2022112305

[1] ES

ES embryonic stem

[2]
DNA
RNA

[3] iPS

ES 2006
2012
iPS induced pluripotent stem

[4]
DNA RNA
DNA

DNA
DNA
DNA
DNA

[5]
1960
2008

[6]
DNA DNA
DNA

[7] HILO
1

[8]

19

[9]

ES ES

[10] 1 SMT

SMT Single-molecule tracking

[11]

[12]

ES Nanog ES
ES

2023 8 23 7 24

AMED
iPS
JST CREST

2023 8 23 7 24

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