

For the further development of stem cell research

# CultureSure™ CEPT Cocktail (1,000×)

CEPT is a cocktail of small molecules developed at the National Institutes of Health (NIH). It contains four components, and CEPT is an acronym for them: **C**hroman 1, **E**mericasan, **P**olyamines, and **T**rans-ISIRIB. Compared to existing methods, CEPT also improves cell viability in stem cell research, including embryoid body and organoid formation, single cell cloning, and genome editing using hPSCs.<sup>1-5)</sup>

## References

- 1) Chen, Y. *et al.* : *Nat. Methods*, **18** (5), 528 (2021).
- 2) Tristan, C.A. *et al.* : *Stem Cell Reports*, **16**(12), 3076 (2021).
- 3) Tristan, C.A. *et al.* : *Nat. Protoc.*, **18**(1), 58 (2022).
- 4) Deng, T. *et al.* : *Stem Cell Reports*, **18**(4), 1030 (2023).
- 5) Takeshi, W. *et al.* : *Regen. Med.*, **18**(3), 219 (2023).

## Features

- Protects human ES/iPS cells from stresses including DNA damage, helping to **maintain cell structure and function**
- Filter-sterilized, **ready-to-use** cocktail solution
- One of the CultureSure series products that are **tested for endotoxin contamination and are mycoplasma negative**



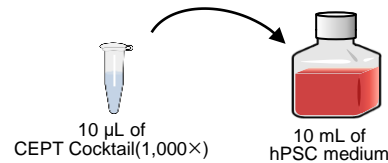
## Analytical Data

- Concentration (HPLC): Passed
- Appearance: Liquid
- Endotoxin: Less than 3 EU/mL
- Tested for sterility
- Tested for negative mycoplasma contamination

## How to Use

Add 1/1,000 volume of this product to the culture medium and mix thoroughly before use.

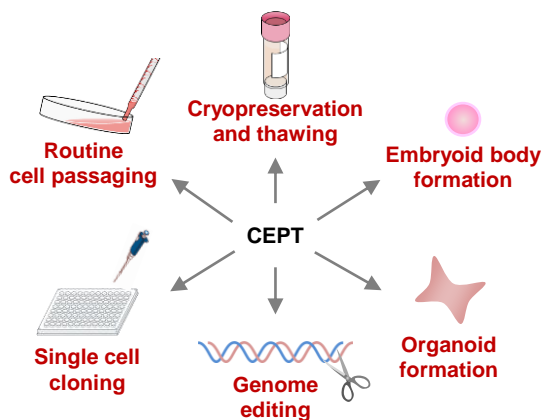
Note: To avoid repeated freezing and thawing, it is recommended to aliquot in small volumes and freeze.



## Samples and Applications

**Samples:** Human ES / iPS cells

**Applications:**



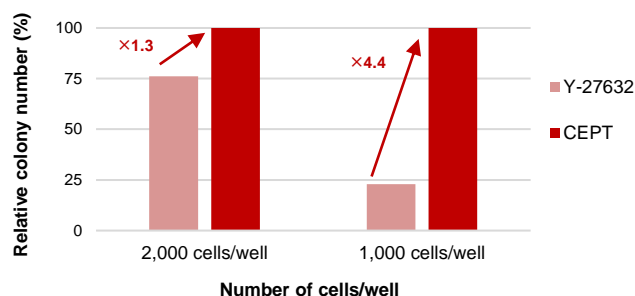
### Example of use: passaging of human iPS cells

1. Remove the medium from the culture dish (10 cm).
2. Add 5 to 10 mL of D-PBS(-) to the dish and rinse.
3. Remove D-PBS(-).
4. Add 2 to 5 mL of a cell dispersing reagent.
5. Allow to stand in an incubator set to 5% CO<sub>2</sub>, 37 °C.
6. Add 10 mL of hPSC medium+CEPT
7. Disperse the hPSC colonies into single cells by pipetting.
8. Transfer the medium with dispersed cells into a tube.
9. Centrifuge the tube for 5 min at 200 x g, room temperature, and remove the supernatant.
10. Add 10 mL of hPSC medium+CEPT to the tube to suspend the cell pellet.
11. Count cells.
12. Seed an appropriate amount of human ES/iPS cells in a new culture dish added hPSC medium+CEPT in advance.
13. Culture in an incubator set to 5% CO<sub>2</sub>, 37 °C.
14. The following day, replace the medium with hPSC medium without CEPT.

Wako Cat. No.	Product Name	Grade	Package Size
033-26071	CultureSure™ CEPT Cocktail (1,000×)	for Cell Culture	300 µL

## Performance data

### Colony Formation Test

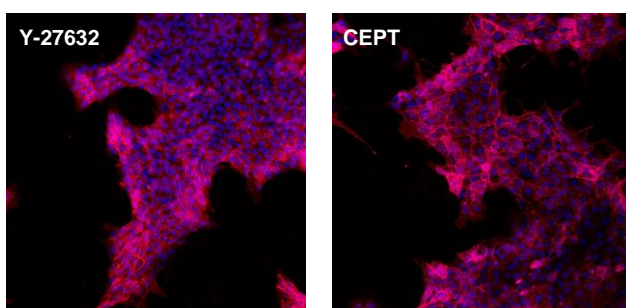


Cell strain	human iPS cell 201B7
Medium	StemSure® hPSC Medium Δ containing 35 ng/mL bFGF
Coating	Matrigel® hESC-Qualified Matrix
Duration of Culture	8 days
Additives	Y-27632 or CEPT was added at the time of seeding. Cells were cultured without the addition from the following day onward.

#### Result

When the number of cells seeded was small, more colonies were formed in the CEPT-supplemented cultures than in the Y-27632-supplemented cultures.

### Undifferentiated State Maintenance



RED : rBC2LCN-635 (human iPS membrane stain)

BLUE : DAPI (nuclear stain)

Note: BC2LCN is a recombinant lectin with high affinity for cell surface glycans of human ES cells and human iPS cells.

Cell strain	human iPS cell 201B7
Medium	StemSure® hPSC Medium Δ containing 35 ng/mL bFGF
Coating	Matrigel® hESC-Qualified Matrix
Number of seeded cells	5,000 cells/well (1well = 3.8 cm <sup>2</sup> )
Duration of Culture	7 days
Additives	Y-27632 or CEPT was added at the time of seeding. Cells were cultured without the addition from the following day onward.

#### Result

No difference in cell morphology was observed between the addition of CEPT and Y-27632. The undifferentiated state was also maintained.

## Related Products

Wako Cat. No.	Product Name	Grade	Package Size
197-17571	StemSure® hPSC Medium Δ	for Cell Culture	100 mL
193-17573			100 mL×4
064-05381	Fibroblast Growth Factor (basic)(FGF-basic / bFGF / FGF2), Human, recombinant, Animal-derived-free(154aa)(powder)	for Cell biology	50 μg
068-05384			100 μg
060-05383			1 mg

Listed products are intended for laboratory research use only, and not to be used for drug, food or human use. / Please visit FUJIFILM Wako Laboratory Chemicals site: <https://labchem-wako.fujifilm.com/> / This leaflet may contain products that cannot be exported to your country due to regulations. / Bulk quote requests for some products are welcomed. Please contact us.

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