

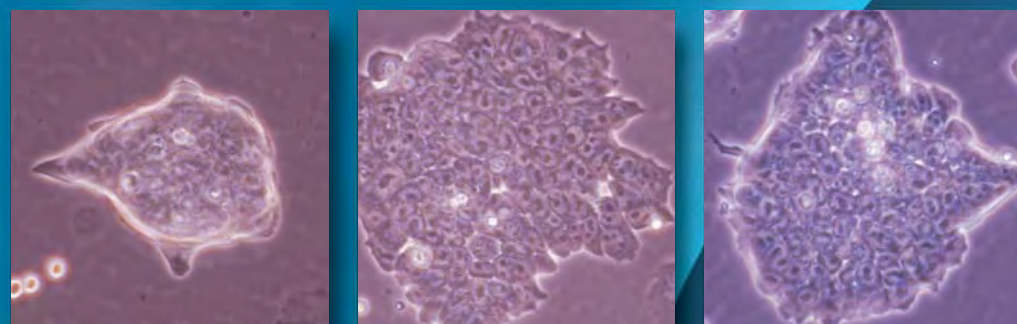
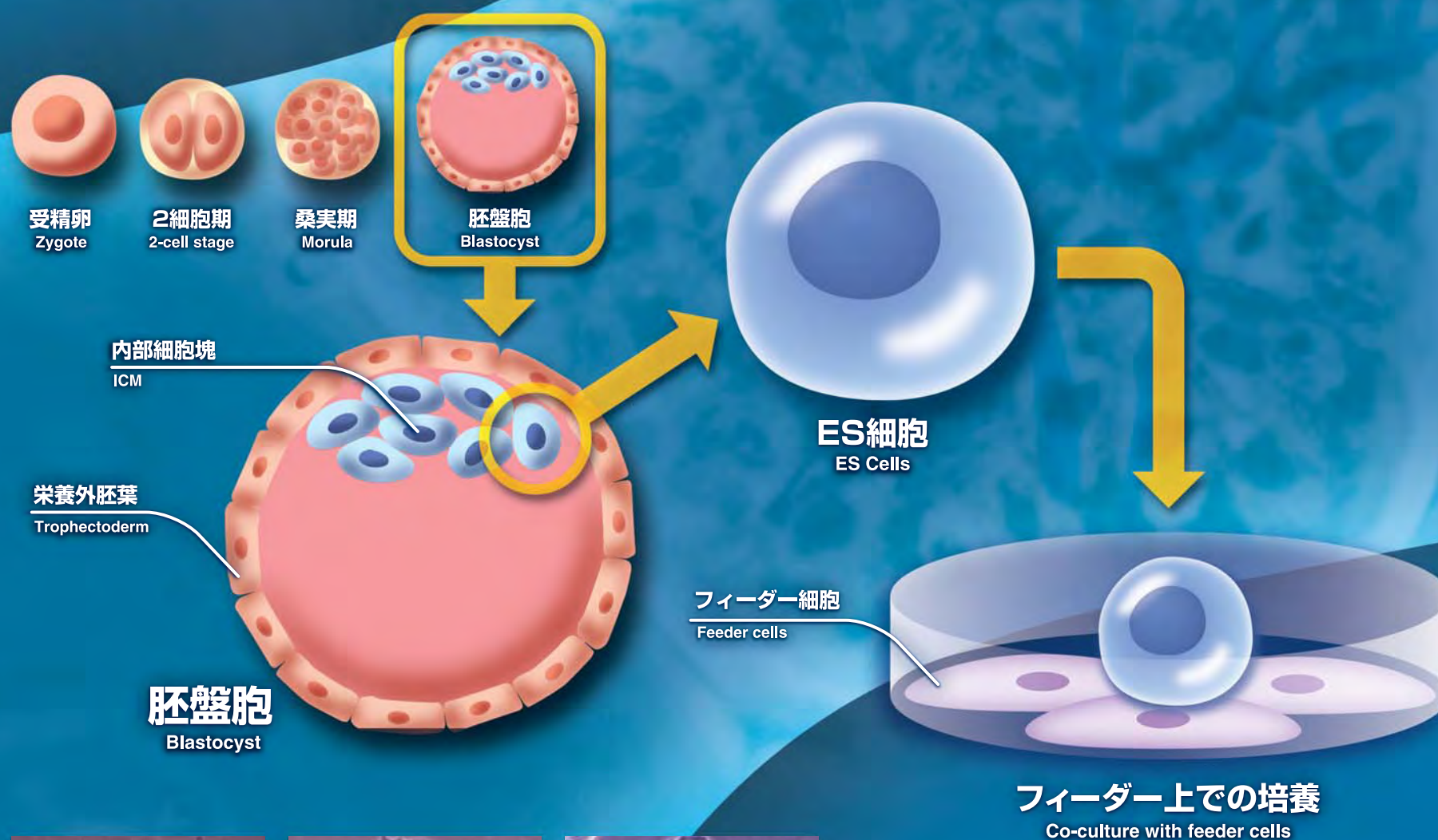
胚盤胞からES細胞を樹立する。 ES Cells are derived from the blastocyst.

胚発生の初期に形成される胚盤胞から内部細胞塊 (ICM, Inner Cell Mass) を取り出し、適切な条件下で培養する。これがES細胞 (Embryonic Stem Cells) である。多くの正常細胞は長期間培養する事ができないが、ES細胞は未分化のまま無限に増殖させる事ができるため、「不死」の細胞とも呼ばれる。同時にES細胞は多能性を備え、体をつくる様々な種類の細胞に分化することができる。

Cells from the inner cell mass (or ICM) are taken from the blastocyst, an early stage of embryonic development, and cultured into embryonic stem (ES) cells. Many types of cells cannot be cultured for long periods, but ES cells can be maintained in an undifferentiated state for an indefinite length of time, which has earned them a reputation as “immortal” cells. ES cells are also able to differentiate into every other kind of cell in the body, an ability known as pluripotency.

樹立

Derivation



初めてのES細胞はマウス胚から得られ、その後ヒトを含む多くの哺乳類からも樹立されている。

The first ES cells were derived using cells from a mouse. Subsequently, ES cell lines have been established using cells from many species of mammal, including humans.