

## PowerStem ESPro1

PowerStem ESPro1 is an easy to use serum-free medium for cultivation of embryonic stem cells of mice (mES cells). These pluripotent cells are derived from blastocysts and they can be established to a permanent cell culture. After injection into blastocysts in chimeras, they can form all tissues, including germ cells. In PowerStem ESPro1, the mES cells largely maintain their undifferentiated state and can be integrated into the germ line.

### Composition

PowerStem ESPro1 contains purified proteins, lipids, salts, amino acids, trace elements, attachment factors, hormones and growth factors in an optimized formulation. PowerStem ESPro1 is fully chemically defined and contains no peptones or hydrolysates.

Please note: Supplemented PowerStem ESPro1 contains LIF in a concentration of 10 µg/l. If higher levels of LIF are required for your experimental setting, please add additional LIF to the medium.

### Suitability

Serum-free cultivation of embryonic stem cells of mice (mES cells), while maintaining the undifferentiated state. PowerStem ESPro1 is especially designed for the serum-free generation of knockout-mice from genetically modified mES cells. PowerStem ESPro1 has also been proven to support the serum-free cultivation and expansion of tumor progenitor cells.

Please note: For research use only, not for therapeutic or diagnostic use.

### Special advantages

PowerStem ESPro1 allows the cultivation and expansion of mouse embryonic stem cells (mES cells) under serum-free conditions. It is fully defined in its composition and thus enables constant and comparable experimental conditions resulting in highly reproducible data. The mES cell culture can be established without the usual feeder layer (primary fibroblasts), cells show a high proliferation rate and largely retain an undifferentiated state. By adding specific differentiation factors, mES cells can differentiate *in vitro* to the desired cell types (e.g. nerve cells, muscle cells, endothelial cells, etc.). Following injection into blastocysts, they can form all tissues in chimeras. Therefore it is possible to generate animals whose genome has been manipulated previously in a cell culture (e.g. knock-out / knock-in mice).

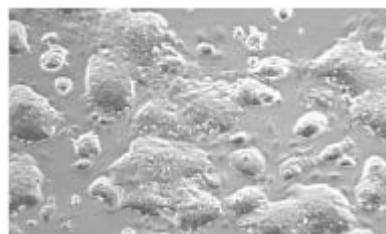
Please note: For differentiation studies LIF supplement must be omitted.

### Instructions for use

Detailed instructions will be provided with the accompanying datasheet for PowerStem ESPro1. In addition, instructions for use can also be found at [www.pan-biotech.com](http://www.pan-biotech.com).



mES-cells in PowerStem ESPro1



JM8-cells in PowerStem ESPro1



mES-cells in medium with 10% FBS

PowerStem ESPro1 with LIF <sup>(3)</sup>	100 ml Kit 500 ml Kit	P04-7701K P04-77010K
PowerStem ESPro1 without LIF <sup>(3)</sup>	100 ml Kit 500 ml Kit	P04-7751K P04-77510K

(1) usually on stock, (2) minimum order 10 l, (3) available on request

## PowerStem ESPro2

**PowerStem ESPro2** is a serum-free medium for cultivation and expansion of embryonic stem cells of mice (mES cells). PowerStem ESPro2 is especially designed to proliferate and expand mES cells without differentiation. To differentiate the proliferated mES cells into different cell types the relevant protocols and differentiation factors can be used.

### Composition

PowerStem ESPro2 contains purified proteins, lipids, salts, amino acids, trace elements, attachment factors, hormones and growth factors in an optimized formulation. PowerStem ESPro2 is fully chemically defined and contains no peptones or hydrolysates.

Please note: Supplemented PowerStem ESPro2 contains LIF in a concentration of 10 $\mu$ g/l. If higher levels of LIF are required, please add additional LIF to the medium.

### Suitability

PowerStem ESPro2 is especially designed for the serum-free cultivation of murine embryonic stem cells (mES cells), while maintaining the undifferentiated state. PowerStem ESPro2 is suitable for the serum-free generation of knockout-mice from genetically modified mES cells. PowerStem ESPro2 has also been proven to support the serum-free cultivation and expansion of tumor progenitor cells.

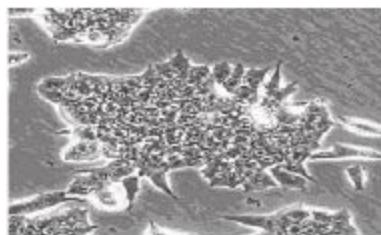
Please note: For research use only, not for therapeutic or diagnostic use.

### Special advantages

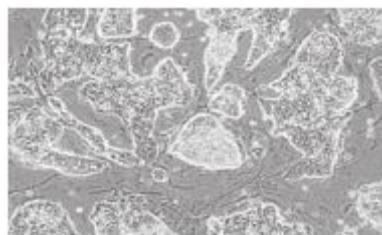
PowerStem ESPro2 allows the cultivation and expansion of mouse embryonic stem cells (mES cells) under serum-free conditions. It is fully defined in its composition and thus enables constant and comparable experimental conditions resulting in highly reproducible data. The mES cell culture can be established without the usual feeder layer (primary fibroblasts), cells show a high proliferation rate and largely retain an undifferentiated state. By adding specific differentiation factors, mES cells can differentiate *in vitro* to the desired cell types (e.g. nerve cells, muscle cells, endothelial cells, etc.).

### Instructions for use

Detailed instructions will be provided with the accompanying datasheet for PowerStem ESPro2. In addition, instructions for use can also be found at [www.pan-biotech.com](http://www.pan-biotech.com).



mES-cells in PowerStem ESPro2



mES-cells in PowerStem ESPro2



ES-cells in medium with 10% FBS

PowerStem ESPro2 with LIF <sup>(3)</sup>	100 ml Kit 500 ml Kit	P04-7702K P04-77020K
PowerStem ESPro2 without LIF <sup>(3)</sup>	100 ml Kit 500 ml Kit	P04-7762K P04-77620K

(1) usually on stock, (2) minimum order 10 l, (3) available on request