PRODUCT DESCRIPTION

Central nervous system (CNS) tissue was isolated from embryonic day 18 rats and cultured as neurospheres for one passage with the NeuroCult™ NS-A Proliferation Kit (Rat; Catalog #05771) supplemented with recombinant human Epidermal Growth Factor (rh EGF; Catalog #02633), recombinant human basic Fibroblast Growth Factor (rh bFGF; Catalog #02634) and Heparin (Catalog #07980). Whole neurospheres were cryopreserved on day 4 of passage 1 (P1).

RECOMMENDED FOR

These neurospheres provide an ideal source of rat neural stem and progenitor cells which can either be expanded, used to generate rat CNS cell lines, or differentiated into neurons, astrocytes and oligodendrocytes.

COMPONENTS

Each vial contains 1 x 10^6 cells in 1 mL.

Cultures of rat neurospheres are sterility tested.

All cryopreserved neurospheres contain neural stem and progenitor cells and are functionally comparable to their non-cryopreserved cell counterparts. The functional assays employed are stem cell proliferation assays and an assay for multipotential differentiation into astrocytes, neurons and oligodendrocytes.

STABILITY AND STORAGE

Product stable at -135°C or colder, or in liquid nitrogen. Upon arrival, cryopreserved neurospheres must be stored immediately at the proper temperatures.

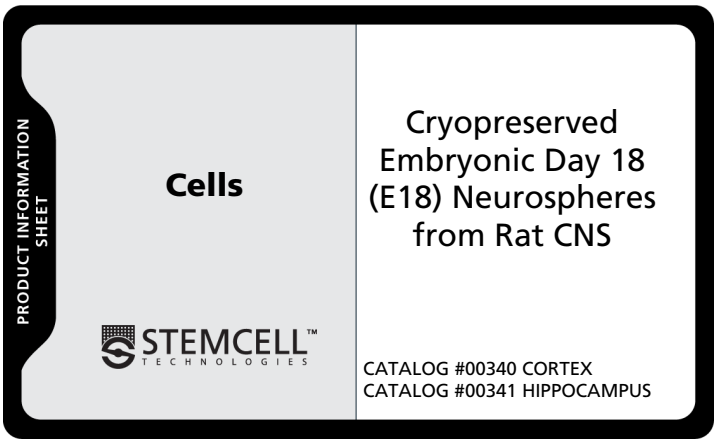
It is advisable to thaw and use cells immediately upon receipt for optimal viability.

DIRECTIONS FOR USE

The viability, morphology, and function of these cells can only be guaranteed by STEMCELL Technologies when using NeuroCult™ products and following suggested protocols.

For detailed instructions on thawing, culturing and passaging rat neuropheres, please see the Technical Manual on *In Vitro Proliferation and Differentiation of Rat Neural Stem and Progenitor Cells (Neuropheres) using NeuroCult™*, Catalog #28725, available on www.stemcell.com

All procedures should be carried out using sterile technique in a certified biological safety cabinet.



REQUIRED MATERIALS

PRODUCT	UNIT SIZE	CATALOG #
NeuroCult™ NS-A Proliferation Kit (Rat)	500 mL	05771
Recombinant Human Epidermal Growth Factor (rh EGF)	200 µg	02633
Recombinant Human Basic Fibroblast Growth Factor (rh bFGF)	25 µg	02634
0.2% Heparin sodium salt in PBS	2 mL	07980
Tissue Culture Flask	T-25 cm^2 flask	Nunc Catalog #156367

RELATED PRODUCTS

PRODUCT	UNIT SIZE	CATALOG #
NeuroCult™ NS-A Differentiation Kit (Rat)	500 mL	05772

WARNING

We do not recommend the storage of frozen cell products in the liquid phase of a liquid nitrogen storage tank. Liquid can enter closed screw top cryovials, which then have the potential to explode due to internal pressure when removed from storage.

Universal handling precautions for biological samples should be used. For more information, please see your site Safety Officer or contact us at techsupport@stemcell.com.

RECOMMENDED FROZEN CELL STORAGE CONDITIONS

For short-term storage (<1 month), store cells in -80˚C freezer.

For long-term storage (>1 month), store in the vapor phase of a liquid nitrogen storage tank.

STORAGE PRECAUTIONS

WARNING: We do not recommend the storage of frozen cell products in the liquid phase of liquid nitrogen (LN_2). Liquid can enter closed screw top cryovials, which then have the potential to explode when removed from storage.

Our warranty does not cover any losses or damages of any kind due to storage of products in the liquid phase of LN_2.

Laboratory personnel should use extreme caution when storing samples in LN_2. LN_2 storage consists of a liquid phase and a gaseous phase. If cryovials are immersed in the liquid phase, LN_2 can enter the closed screw-top cryovials during storage. The cryovial may then explode when it is removed from storage due to the vaporization and expansion (700x expansion ratio) of the liquid nitrogen inside the cryovial.

HEALTH HAZARDS OF LIQUID NITROGEN

Liquid nitrogen has a 700x expansion ratio, which may cause physical hazards and injuries due to the explosion of cryovials, containers, equipment, or other devices. Extensive tissue damage or burns can result from exposure to LN_2 or cold nitrogen vapors. Asphyxiation may result from the displacement of oxygen in the air with nitrogen to levels where there is insufficient oxygen. Inhalation of oxygen deficient air can cause dizziness, nausea, vomiting, loss of consciousness, and death.

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PERSONAL PROTECTIVE EQUIPMENT

The following personal protective equipment is recommended when handling or using LN_2:

Cryo gloves/Waterproof thermal insulated gloves

- Hands should be protected with waterproof thermal insulated gloves that can be quickly removed if LN2 is spilled on them. These gloves are not intended for submersing hands into LN2.

Clothing

- Body must be protected with pants, lab coats, and closed-toe shoes.

Face Shield

- Eyes are sensitive to the extreme cold of LN_2 and its vapors. Over-pressurization may result in the explosion of improperly stored cryovials. Chemical splash face shields should be used when handling LN_2 and when handling cryovials and other sealed containers that have been stored in LN_2.

The handling of cryovials inside of Biological Safety Cabinets (with the sash lowered) will further reduce the risk of injury from explosions caused by excess pressure within the vial. We recommend that excess pressure be relieved by briefly opening the cap of the cryovial a quarter turn before resealing. This should be done inside a Biological Safety Cabinet.