COSMO BIO CO., LTD.
Inspiration for Life Science

For research use only. Not for clinical diagnosis.

Catalog No. PMC-AST01-COS

Astrocyte Culture kit (Rat)

(Rat Cryopreserved Cell and culture medium,)

For research use only

Cell specification

Astrocytes are one of the glial cells in the brain and spinal cord. They are the most abundant cells in the brain. They perform many functions, including construction of the central nervous system, regulation of homeostasis of neurons and formation of the blood-brain barrier.

The Astrocyte Culture kit is a kit which consists of formulated cryopreserved cells and culture medium optimized for culturing astrocytes. It can be used for anti-oxidization, anti-inflammation, analysis of cytokines and gliosis.

Kit Components/Storage

Components	Size	Quantity	Storage Conditions	Shelf Life
Astrocytes, Rat (embryos(E18-20))	1 x 10^6 cells/vial	1	Liquid Nitrogen	6months
Astrocyte Culture Medium (Cat. Number: PMC-ASTM-COS)	250 ml	1	-20°C Freezer	6months (-20°C) 3months (4°C)

NOTE: If you would like to place an order for kit components individually, please refer to catalog numbers written in table above.

*Shipping Temperature: dry ice

Components of Medium:

ASTM is a complete medium designed for optimal culture for rat astrocytes *in vitro.* It is a sterile, liquid basal medium (D-MEM/F12) which contain essential and non-essential amino acids, vitamins, other organic compounds, trace minerals, inorganic salts, growth factors, hormones, fetal bovine serum, and antibiotics.

Materials required but not provided

- Various volume pipettes
- Culture dishes, plates or flasks

Precautions

- Please read the instructions carefully before beginning the culture.
- This kit is for research use only, not for human or diagnostic use.

Protocols

1. Thaw the vial of cryoserved Astrocytes in a 37°C water bath for 2 minutes.
   Caution: Do not vortex the cells
   ↓
2. Transfer thawed cells into a 50 ml centrifuge tube containing 10 ml of Astrocyte Culture Medium.
   ↓
3. Rinse the vial with 1ml of cell suspension.
   ↓
4. Centrifuge for 5 minutes at 4°C at 200 x g.
   ↓
5. After removing the supernatant, resuspend cells with 10ml volumes of medium.
   ↓
6. Centrifuge for 5 minutes at 4°C at 200 x g.
   ↓
7. After removing the supernatant, resuspend cells in appropriate volume of medium.
   ↓
8. Transfer the cell suspension to appropriate flasks, petri dishes or well plates. The recommended cells density is 0.5~1 x 10^4cells/cm^2.
   ↓
9. Incubate the plate at 37°C under 5% CO_2, 100% humidity.
   ↓
10. Every 2-3 days, replace the supernatant with warmed-up, fresh medium of cell culture and return cells to the incubator.

*After 3~5 days, astrocytes reach approximately 80~100% confluency.

*Astrocytes have weak adhesion to glass. When culturing on glass slides or glass dishes, the recommended cells density is 2~5 x 10^4cells/cm^2. Astrocytes reach approximately 80~100% confluency in about one week.

Quality Control

The Astrocytes are characterized for each lot by Immunofluorescence of Glial Fibrillary Acidic Protein (GFAP)

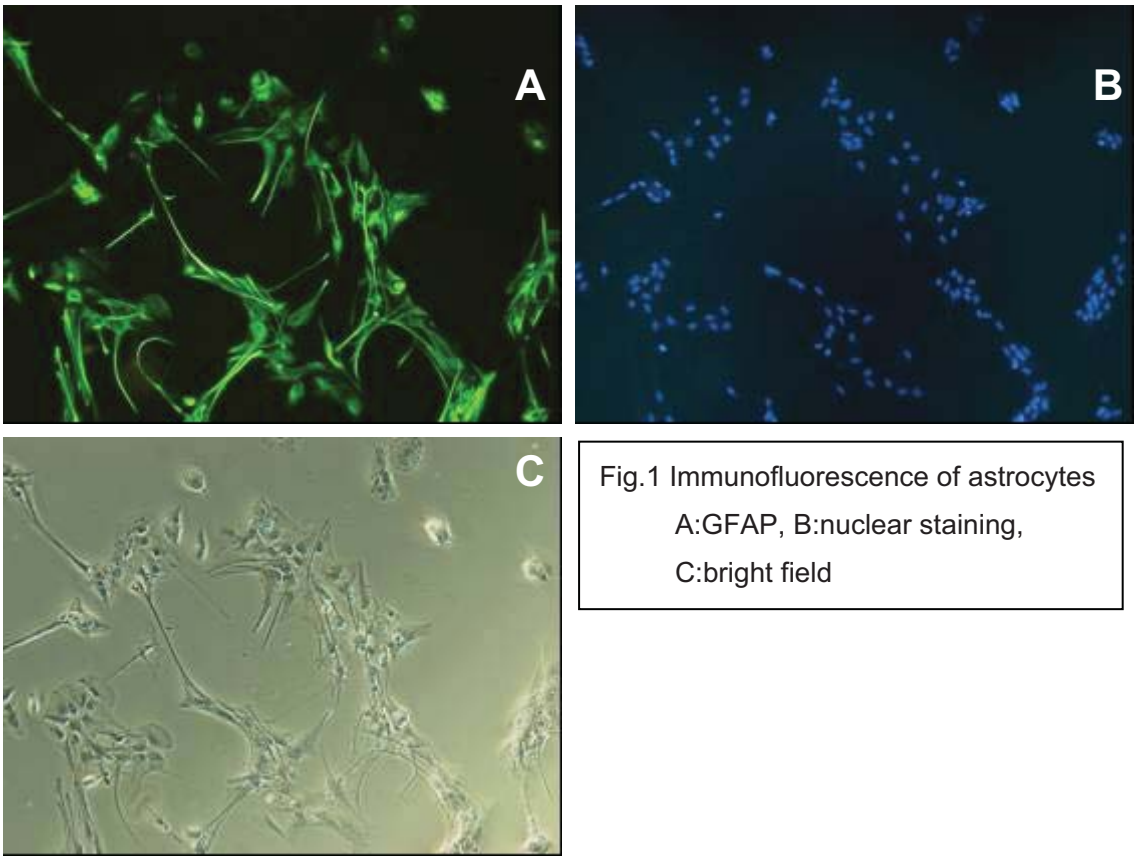

Fig.1 Immunofluorescence of astrocytes
A:GFAP, B:nuclear staining,
C:bright field

References

1) Miller, R. H., Ffrench-Constant, C., and Raff, M. C. (1989). The macroglial cells of the rat optic nerve. Annu. Rev. Neurosci. 12, 517-534. (2)

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