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cell based solutions

NEUROSCIENCES INNOPROFILE™

P10834

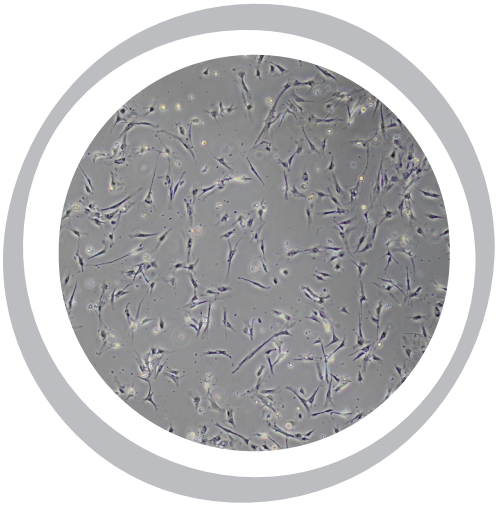
Primary Porcine Müller Glial Cells are isolated from the retina of porcine eyes obtained from an authorized local supplier. Müller cells are the principal glial cells of the retina and play a central role in maintaining retinal homeostasis, providing metabolic and structural support to neurons, regulating ion and water balance, modulating synaptic activity, and contributing to the integrity of the blood–retinal barrier.

Dysfunction or reactive gliosis of Müller cells is a key feature of numerous retinal pathologies, including diabetic retinopathy, retinal degeneration, glaucoma, and inflammatory retinal diseases. Primary porcine Müller cells retain characteristic morphological and molecular features, including expression of glial markers. Their physiological relevance and close similarity to human retinal biology make them a valuable in vitro model for retinal research, disease modeling, neuroglial interaction studies, and evaluation of therapeutic strategies targeting retinal dysfunction.

PRIMARY PORCINE

MÜLLER GLIAL CELLS

Product Type: Primary Porcine Müller Cells
Catalog Number: P10834
Number of cells: >0.5 x10^6 or 1 x10^6 cells (cryopreserved vials)
Storage: Liquid Nitrogen
Recommended Medium: Müller Cell Medium (Ref: P60176)
Product Characterization: Positive for Glutamine Synthetase.



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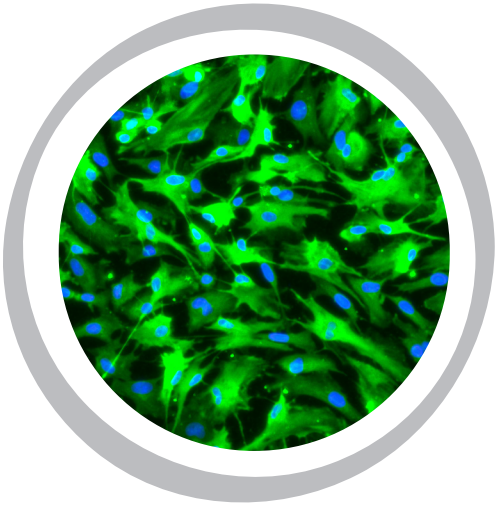

Glutamine Synthetase

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Culturing conditions

1. IMMEDIATELY UPON DELIVERY

1.1. Remove the vial from the shipping container to check for freezing.

1.2. Transfer the frozen vial to liquid nitrogen storage until ready to thaw.

2. THAWING CELLS

2.1. Pre-coat the desired culture vessel with poly-L-lysine. Incubate at 37 °C for 1 hour, then rinse three times with sterile distilled water. Allow the surface to dry in a sterile environment.

2.2. Prepare the complete culture medium by mixing basal medium, fetal bovine serum (FBS), growth supplement and penicillin-streptomycin solution. Warm the medium to 37 °C prior to use.

2.3. Thaw the cryovial rapidly in a 37 °C water bath, gently swirling the vial. Do not allow the contents to reach 37 °C internally. Remove the vial while still cool to the touch.

2.4. Wipe the exterior of the vial with 70% ethanol and transfer it to a sterile biosafety cabinet.

2.5. Open the vial and gently transfer the contents into a 15 ml conical tube containing 9.5 ml of pre-warmed complete medium to dilute the DMSO.

2.6. Centrifuge at 1500 rpm for 10 minutes at room temperature. Carefully discard the supernatant to remove residual DMSO.

2.7. Resuspend the pellet gently in 1 ml of pre-warmed complete medium using a 2 ml pipette.

2.8. Transfer the cell suspension directly into the pre-warmed coated culture vessel containing fresh complete medium.

2.9. Place the culture vessel in a humidified incubator at 37 °C with 5% CO_2.

2.10. For optimal recovery, avoid disturbing the culture for the first 16–18 hours. Replace the medium the following day to remove unattached cells and debris, and then every other day thereafter.

3. CULTURE MAINTENANCE

- Renew the culture medium 2–3 times per week depending on cell density and experimental needs.
- The recommended seeding density ranges from 30,000 to 40,000 cells per well in a 96-well plate (surface area ≈ 0.32 cm^2 per well). Do not seed cells at a density lower than 50,000 cells/cm^2, as insufficient seeding may compromise cell viability and adherence.
- Excessive subculturing may lead to a significant loss of phenotypic and functional properties.

Quality Control: Cells are tested and confirmed negative for HIV-1, HBV, HCV, mycoplasma, bacteria, yeast, and fungi.

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