

PC-12 | 500311

General Information

Description

PC-12 is a cell line derived from a patient with a neuroendocrine tumor. It is characterized by its ability to form neuroendocrine-like structures in culture. The cells are highly proliferative and express markers typical of neuroendocrine cells, such as chromogranin A and synaptophysin. PC-12 cells are commonly used in research to study neuroendocrine differentiation and the effects of various treatments on these cells.

PC-12 cells were established from a 40-year-old patient with a neuroendocrine tumor of the pancreas. The cells were cultured in the presence of insulin, transferrin, and selenium (ITS) and have been shown to differentiate into neuroendocrine cells. PC-12 cells are highly proliferative and express markers typical of neuroendocrine cells, such as chromogranin A and synaptophysin.

Organism Human

Tissue Pancreas

Disease Neuroendocrine tumor

Synonyms PC 12, PC12

Characteristics

Age 40 years

Gender Male

Ethnicity Caucasian

Morphology Epithelial

Growth properties PC-12 cells are highly proliferative and form neuroendocrine-like structures in culture. They are typically grown in DMEM/F12 medium supplemented with insulin, transferrin, and selenium (ITS).

Identification

Citation PC-12 (ATCC CRL-2206) | Cytion 500311

Biosafety level 1

NCBI_TaxID 10116

CellosaurusAccession CVCL_S979

Product sheet

PC-12 | 500311

PC-12 - NGF-dependent rat pheochromocytoma cell line

Receptors expressed NGF receptor (NGF)

Tumorigenic Yes, tumorigenic in syngeneic rat hosts, tumorigenic in immunodeficient mice

Products PC-12 conditioned medium, PC-12 cells

Karyotype 40 chromosomes, 38 chromosomes X,Y

Media

Culture Medium RPMI 1640, w: 2.0 mM L-glutamine, w: 2.0 g/L NaHCO3 (Cytion 820700a)

Supplements 10% FBS

Subculturing PC-12 cells are maintained in 10% FBS. For subculturing, cells are trypsinized and resuspended in fresh medium. Cells are seeded at a density of 1 x 10⁴ cells per well in 24-well plates.

Seeding density 1 x 10⁴ cells/well

Fluid renewal 2-3 times per week

Post-Thaw Recovery Cells are thawed in a 37°C water bath and seeded into a 24-well plate with 10% FBS. After 48 hours, the medium is replaced with fresh 10% FBS medium.

Freeze medium 50% FBS + 40% FBS + 10% DMSO, CM-1 (Cytion 800100), 10% FBS

PC-12 | 500311

Thawing and Culturing Cells

1. Thaw the cells as quickly as possible, ideally in a water bath at 37°C. Do not allow the cells to warm to room temperature.
2. Add 10 mL of pre-warmed complete medium to the cells. Gently mix the cells by pipetting up and down.
3. Seed the cells into a T25 flask containing 50 mL of complete medium. Gently mix the cells by pipetting up and down.
4. Incubate the cells in a humidified CO₂ incubator at 37°C and 5% CO₂.
5. Once the cells have reached confluence, they can be used for experiments.
6. For passaging, remove the medium and wash the cells with PBS. Add 1 mL of trypsin-EDTA solution to the flask and incubate for 5 minutes at 37°C.
7. Add 10 mL of complete medium to the flask and gently mix the cells by pipetting up and down.
8. Seed the cells into a new T25 flask containing 50 mL of complete medium. Gently mix the cells by pipetting up and down.

Incubation Atmosphere 37°C, 5% CO₂, humidified

Flask Coating None

Freezing Procedure Seed cells into a T25 flask containing 50 mL of complete medium. Once cells are at 70-80% confluence, remove the medium and wash the cells with PBS. Add 1 mL of trypsin-EDTA solution to the flask and incubate for 5 minutes at 37°C. Add 10 mL of complete medium to the flask and gently mix the cells by pipetting up and down. Seed the cells into a new T25 flask containing 50 mL of complete medium. Gently mix the cells by pipetting up and down.

Shipping Conditions Cells should be shipped at 4°C. Do not freeze the cells for shipping.

Storage Conditions Cells should be stored at 4°C. Do not freeze the cells for storage.

PC-12 / HLA

Sterility The cells are provided as a suspension in complete medium. The cells are not tested for mycoplasma contamination. The cells are not tested for endotoxin contamination. The cells are not tested for other contaminants.

PC-12 | 500311

STR

- Rat_D1Wox31:** 100
- Rat_D2Wox37:** 156
- Rat_D19Wox11:** 228
- Rat_D10Wox8:** 262,266
- Rat_D4Wox7:** 145
- Rat_D2Wox27:** 207
- Rat_D5Rat33:** 116, 118, 120
- Rat_D10Wox11:** 174
- Rat_D1Wox23:** 226,23
- Rat_D12Wox1:** 402,406
- Rat_D6Wox2:** 104
- Rat_D8Wox7:** 182
- Rat_D6Cebr1:** 229,231,233
- SRY:** x,Y