

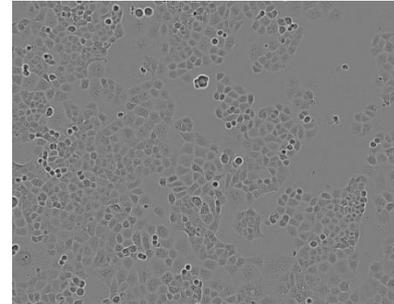


## Cell line profile

### PANC-1 ([ECACC catalogue no. 87092802](#))

#### Key characteristics

PANC-1 (pleomorphism) expresses CK5.6, MNF-116, vimentin, chromogranin A, CD56 and SSTR2 (Gradiz et al., 2016). In culture, the cell line does not secrete significant carcinoembryonic antigen (Lieber et al., 1975). Microscopic observation combined with flow cytometry analysis revealed the presence of three distinct morphological patterns: Small cells (morula), intermediate cells (Stellate) and large cells (isolated) (Gradiz et al., 2016). The karyotype of PANC-1 is hypertriploid ( $2n = 46$ ).



PANC-1 cells 72hrs post seeding

#### Applications

PANC-1 is an epithelioid carcinoma attached cell line that is currently used as an *in vitro* model to study pancreatic ductal adenocarcinoma carcinogenesis and tumour therapies (Gradiz et al., 2016). Specifically, the presence of the SSTR2 receptors and the occurrence of neuroendocrine differentiation make this cell line suitable for pancreatic cancer neuroendocrine chemotherapy and peptide receptor radionuclide therapy (Gradiz et al., 2016).

#### Cell line history

PANC-1 is established from a ductal-origin pancreatic carcinoma isolated from a 56-year-old Caucasian male (Lieber et al., 1975). PANC-1 cells possess the type B phenotype for G6PD. Short tandem repeat (STR)-PCR analysis performed by ECACC failed to identify the Y chromosome. Genetic instability is a common karyotypic property of cancer cell lines where the Y chromosome can be rearranged or lost. The cell line is identical to the source provided by the depositor based on the STR-PCR analysis.

#### Culture tips

Split sub-confluent cultures (70-80%) 1:3 to 1:6 i.e. seeding at  $2-4 \times 10^4$  cells/cm<sup>2</sup> using 0.25% trypsin or trypsin/EDTA; Cells grow optimally at 37°C, 5% CO<sub>2</sub> in DMEM + 2mM Glutamine + 10% Foetal Bovine Serum (FBS).

#### Key references

Lieber M, J Mazzetta, W Nelson-Rees, M Kaplan, G Todaro (1975) *Establishment of a continuous tumor-cell line (panc-1) from a human carcinoma of the exocrine pancreas*. Int. J. Cancer 15: 741-747.

R Gradiz, H C Silva, L Carvalho, M F Botelho & A Mota-Pinto. (2016). Scientific Reports 6. *MIA PaCa-2 and PANC-1 – pancreas ductal adenocarcinoma cell lines with neuroendocrine differentiation and somatostatin receptors*. 21648, 1 - 14.

Related cell lines	Origin
<a href="#">HuP-T3</a>	Human pancreatic adenocarcinoma
<a href="#">HuP-T4</a>	Human pancreatic adenocarcinoma
<a href="#">PSN1</a>	Human pancreatic adenocarcinoma
<a href="#">CFPAC-1</a>	Human Caucasian pancreatic adenocarcinoma
<a href="#">BxPC-3</a>	Human primary pancreatic adenocarcinoma
<a href="#">1.1B4</a>	Human pancreatic Beta cell line (PANC-1 hybrid line)