

Datasheet PANEXIN NTA

Pure grade chemically defined Serum Substitute for adherent Cells – New Technology

Product	Description	Catalogue-No.	Size
PANEXIN NTA	Pure grade chemically defined FCS-substitute for adherent Cells, New Technology	P04-95750	500 ml
		P04-95700	100 ml
		P04-95070	50 ml

Product description :

PANEXIN NTA is a complete chemically defined serum substitute for the cultivation of adherent cells under serumfree culture conditions. PANEXIN NTA is developed with a unique technology and contains a special 3-dimensional substance release system (3D-SRS) for an optimal support of cell nutrients and growth stimulants.

The reconstituted sterile solution is added to the culture medium in a final concentration of 10%. It supports the adherent growth of many cell types in an optimum manner.

Storage conditions: -20°C in the dark
 Stability: 2 years
 Filling: 50 ml, 100 ml, 500 ml, larger containers on request

Composition:

PANEXIN NTA contains purified proteins, lipids, salts, amino acids, trace elements, attachment factors and hormones in an optimized formulation and new 3-dimensional substance release system (3D-SRS). PANEXIN NTA contains no growth factors, undefined hydrolysates or peptones.

Suitability:

PANEXIN NTA is suitable for the cultivation of a variety of adherent cells under serumfree culture conditions.

Special Advantages:

PANEXIN NTA can be used for many cell lines instead of FCS. Due to selected and pretested raw materials the individual PANEXIN NTA batches are very homogeneous. Therefore the complex charge testing known from FCS can be omitted with the use of PANEXIN NTA. The so far used basis medium can still be used. PANEXIN NTA is completely chemically defined and contains no undefined peptones or hydrolysates. For cell lines which require specific growth factors, they should be added in the usual concentration previously used.

Instructions for Use :

In many cases a serumfree cultivation can be done without complex adaptation steps (many adherent growing cell lines such as HEK293, CHO, L929, 3T3A).

- Thaw PANEXIN NTA slowly in a water bath.
- Trypsinate adherent cells in the used procedure (e.g. 0.25% trypsin solution). Once the cells have become round and detach from the surface (the process can be speeded at 37 °C) inactivate trypsin with trypsin inactivator.
- Put the cells in PBS (without Mg⁺⁺ / Ca⁺⁺) centrifuge them. Evacuate supernatant sterile and remove it.
- Resuspend cells in basic medium (RPMI 1640, DMEM or others) and count the cell number.
- Add 10% sterile PANEXIN NTA to the usually used basic medium (e.g. RPMI 1640, DMEM, MEM, DMEM/F12) instead of FCS.
- Add the cell suspension to the base medium supplemented with the PANEXIN NTA.
- Initial seeding density 10.000 - 50.000 cells/ml.
- Incubate the cells in the usual way in CO₂ incubator at 37 °C.

Depending on the cell type the optimal PANEXIN NTA concentration can vary from 5% - 15%, comparable to the used FCS concentrations. The optimal PANEXIN NTA concentration should be determined for each cell line. The tests should be started at a PANEXIN NTA concentration of 10% as in most cells the best results were obtained with this concentration.

As the basic medium you can use the classical standard media such as RPMI 1640, DMEM (high or low glucose), DMEM/F12, IMDM and so on. Make sure that L-glutamine is present in sufficient quantities (possibly supplement glutamine).

Depending on the cell some differences could be observed with the various standard media. Many applications were performed with RPMI 1640 and DMEM/F12 for adherent cells. With these combinations very good growth stimulation was achieved with 5%-15% PANEXIN NTA.

For demanding cells (e.g. primary cells) an adaptation to PANEXIN NTA is necessary.

Adaptation instructions for PANEXIN NTA :

Precondition for a successful transition are vital cells (trypan blue exclusion staining), which should be harvested in the logarithmic growth phase. :

- Harvest cells in the usual way.
- Supplement normally used basic medium with 10% PANEXIN NTA
- The final solution is stable at least 4 weeks at 4 °C = **MedPAN**.
- Supplement normally used basic medium with 10% FBS = **MedFBS**.

1) 75 % MedFBS : 25 % MedPAN

- Seed cells at $5 \times 10^4 - 1 \times 10^5$ cells/ml.
- Observe cells under microscope, at 90 % confluence, passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

2) 50 % MedFBS : 50 % MedPAN

- Seed cells at $5 \times 10^4 - 1 \times 10^5$ cells/ml.
- Observe cells under microscope, at 90 % confluence, passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

3) 25 % MedFBS : 75 % MedPAN

- Seed cells at $5 \times 10^4 - 1 \times 10^5$ cells/ml.
- Observe cells under microscope, at 90 % confluence, passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

4) 100 % MedPAN

- Seed cells at $5 \times 10^4 - 1 \times 10^5$ cells/ml.
- Observe cells under microscope.

For some cells an adaptation to serumfree conditions is difficult to reach or even impossible.

The following measures can facilitate a successful adaptation:

- Reseeding with a higher cell amount.
- Addition of growth factors (if known, what factors have a positive effect on the relevant cells).
- Coating the culture dishes or flasks with fibronectin, laminin, collagen, gelatine or other attachment factors (for adherent cells).
- Change the basic medium.

Growth Stimulation in different Cell Lines :

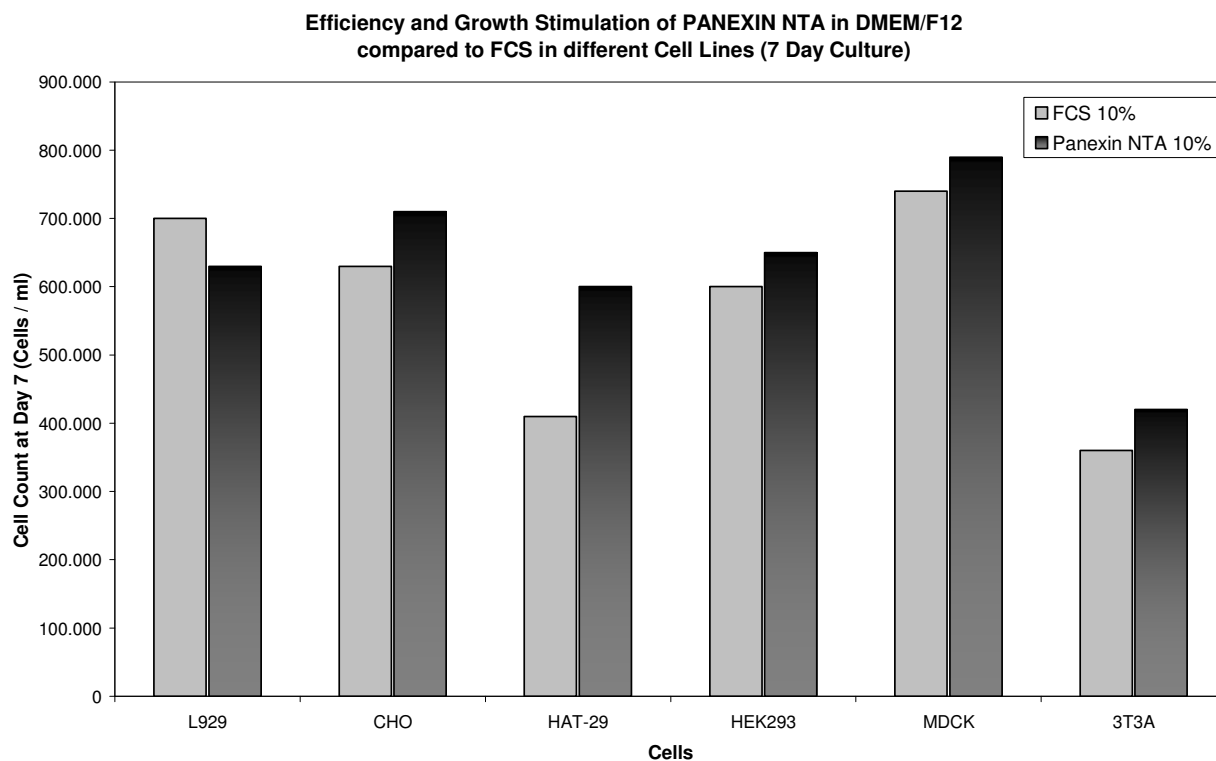


Fig.1 : Efficiency and Growth Stimulation of PANEXIN NTA compared to FCS (each 10% in DMEM/F12)

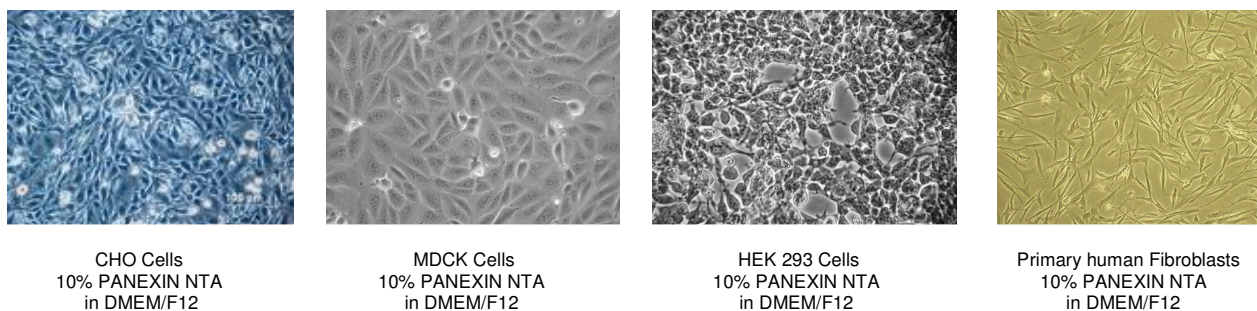


Fig.2 : Different Cell Lines in DMEM/F12 with 10% PANEXIN NTA

Technical Support :

Additional information will be available on our website : www.pan-biotech.com

For any technical support, questions or remarks please contact your local PAN-Biotech partner or the technical department of PAN-Biotech via email (info@pan-biotech.com) or phone ++49-8543-601630.