PAN™ BIOTECH GmbH
Competence in Cell Culture

Datasheet PANEXIN NTS

Pure grade chemically defined Serum Substitute for Cells in suspension - New Technology

Product	Description	Catalogue-No.	Size
PANEXIN NTS	**Pure grade chemically defined FCS-substitute for non-adherent Cells in Suspension - New Technology**	**P04-95850**	**500 ml**
		P04-95800	**100 ml**
		P04-95080	**50 ml**

Product description :

PANEXIN NTS is a complete chemically defined serum substitute for the cultivation of suspension cells under serumfree culture conditions. PANEXIN NTS 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 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 NTS 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 NTS contains no growth factors, undefined hydrolysates or peptones.

Suitability:

PANEXIN NTS is suitable for the cultivation of a variety of non-adherent suspension cell under serumfree culture conditions.

Special Advantages:

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

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Instructions for Use :

In many cases a serumfree cultivation can be done without complex adaptation steps (many suspension cell lines such as SP2).

- Thaw PANEXIN NTS slowly in a water bath.
- Non-adherent cells (e.g. SP2) can be directly transferred into the nutrient solution (e.g. RPMI 1640, IMDM) supplemented with 10% PANEXIN NTS.
- Initial seeding density 10.000 – 50.000 cells/ml.

Depending on the cell type the optimal PANEXIN NTS concentration can vary from 5% - 15%, comparable to the used FCS concentrations. The optimal PANEXIN NTS concentration should be determined for each cell line. The tests should be started at a PANEXIN NTS 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 IMDM for non-adherent cells and with DMEM and DMEM/F12 for adherent cells. With these combinations very good growth stimulation was achieved with 5%-15% PANEXIN NTS.

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

Adaptation instructions for PANEXIN NTS :

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 NTS
- 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 x 10^4 – 1 x 10^5 cells/ml.
- Observe cells under microscope, in the case of good proliferation (e.g. cell count > 1 x 10^6 cells/ml), passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

2) 50 % MedFBS : 50 % MedPAN

- Seed cells at 5 x 10^4 – 1 x 10^5 cells/ml.
- Observe cells under microscope, in the case of good proliferation (e.g. cell count > 1 x 10^6 cells/ml), passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

3) 25 % MedFBS : 75 % MedPAN

- Seed cells at 5 x 10^4 – 1 x 10^5 cells/ml.
- Observe cells under microscope, in the case of good proliferation (e.g. cell count > 1 x 10^6 cells/ml), passage the cells 2-3 passages.

If normal growth is obtained transfer cells in :

4) 100 % MedPAN

- Seed cells at 5 x 10^4 – 1 x 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 :

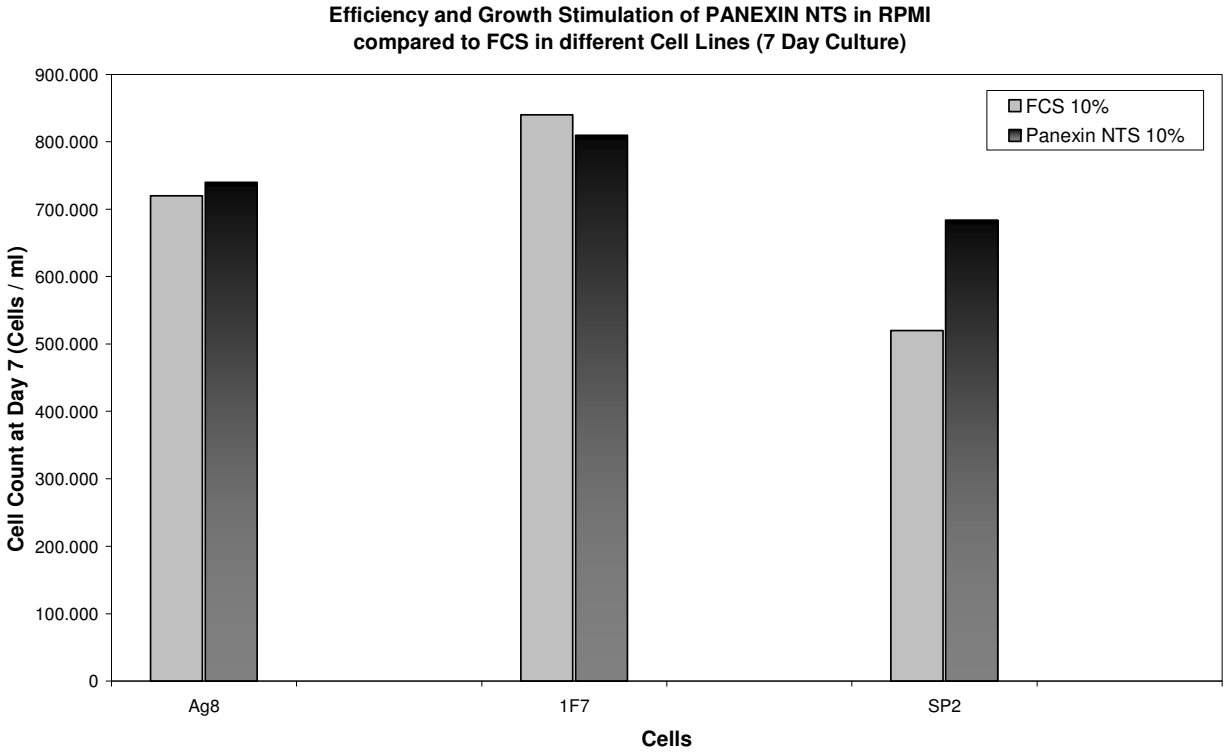
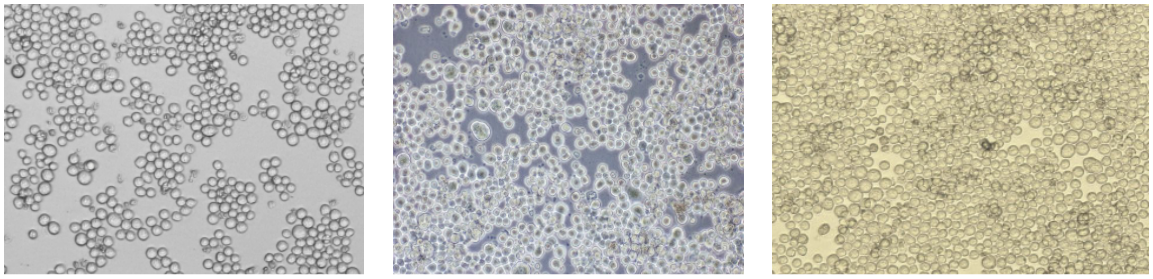


Fig.1 : Efficiency and Growth Stimulation of PANEXIN NTS compared to FCS (each 10% in RPMI)



Ag8 Cells
10 % PANEXIN NTS in RPMI

1F7 Cells
10 % PANEXIN NTS in RPMI

SP2 Cells
10 % PANEXIN NTS in RPMI

Fig.2 : Different Cell Lines in RPMI with 10% PANEXIN NTS

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.