Datasheet

Panexin NTA Pharma Grade

Defined Serum Substitute for Adherent Cells

Product	Description	Catalogue-No.	Size
Panexin NTA Pharma Grade	**Defined serum substitute for adherent cells without animal components**	**P04-95070P** **P04-95700P** **P04-95750P**	**50 ml** **100 ml** **500 ml**

Product description
Panexin NTA Pharma Grade is a ready-to-use, fully defined and animal-free serum substitute for the cultivation of adherent cells under serum-free conditions or to significantly reduce the amount of serum in cell culture. It supports the growth of many adherent cell types in an optimum manner without any extra handling compared to serum.

Storage conditions
Storage: -20°C (in the dark)
Stability: 2 years from date of production
Size: 50 ml, 100 ml, 500 ml, other sizes on request

Composition
Panexin NTA Pharma Grade contains purified proteins, lipids, salts, amino acids, trace elements, attachment factors and hormones in an optimized formulation. Panexin NTA Pharma Grade contains no growth factors, undefined hydrolysates or peptones and no animal derived components.

Suitability
Panexin NTA Pharma Grade is suitable for the cultivation of a variety of adherent cells under serum-free culture conditions or to reduce the necessary FBS amount in cell culture.

Special advantages
Panexin NTA Pharma Grade is designed to replace or to reduce serum in the cell culture in a very simple manner. There is no need to change the basal medium . As Panexin Pharma Grade is fully defined and contains no peptones or hydrolysates, lot testing is no more necessary. It also allows high reproducibility and a simplified downstream process. Panexin Pharma Grade contains no growth factors and enables defined proliferation and differentiation of stem cells. Characterization studies of growth factors will obtain more reproducible and clearer results. Panexin Pharma Grade is also useful to develop sensitive cell-based *in vitro* tests and coculture procedures. For cell lines which require specific growth factors these should be added in a concentration as previously used.

Instructions for use
Panexin NTA Pharma Grade can be stored and used in the same manner as serum.

- Thaw Panexin at maximum 37 °C. Please avoid repeated freeze-thaw cycles!
- To replace serum: Use the same basal medium and the same concentration of Panexin as FBS. The performance can be further improved by optimizing the concentration of Panexin or modifying/changing the basal medium[a]
- To reduce serum concentration: Use the same basal medium and add the same amount of Panexin as the reduced amount of serum, until the minimal necessary concentration of FBS is

PAN Biotech GmbH – Am Gewerbepark 13 – 94501 Aidenbach – GERMANY
www.pan-biotech.com – phone +49-8543-601630 – fax +49-8543-601649

found (1 to 2.5 % in most cases). The performance can be further improved by optimizing the the concentration of Panexin or modifying/changing the basal medium[a] (also see adaptation instruction).

- Recommended inoculation cell density: 5.000 – 20.000 cells/cm^2.
- If working with adherent cells: Solve adherent cells as usual from the cell culture vessel (e.g. 0.25% trypsin inhibitor, Cat.No. P10-033100 or Accutase®, Cat.No. P10-21100). Once the cells have become round and detach from the surface inactivate trypsin with trypsin inhibitor (Cat.No. P10-034100): Simply resuspend cells in about 1 ml trypsin inhibitor solution for every ml of trypsin solution used for dissociation. Note that Accutase® does not need to be inhibited.

Depending on the cell type, some differences in morphology or proliferation rate may be observed with varying standard media. Most applications were performed with DMEM and DMEM/F12 for adherent cells. Make sure that L-glutamine is present in sufficient quantity. The optimal Panexin NTA concentration should be determined for each cell line. Tests can be started at a Panexin NTA concentration of 10%, as with most cells the best results were obtained at this concentration.

Please note: For more demanding cells an adaptation to Panexin NTA Pharma Grade may be necessary.

Adaptation instructions for Panexin NTA Pharma Grade

Precondition for a successful transition are vital cells (trypan blue exclusion staining), which should be harvested in the logarithmic growth phase. If 10% FBS was used in the original protocol,

Step 1: 7.5 % FBS + 2.5 % Panexin

- Seed cells at 5 x 10^3 – 20 x 10^3 cells/cm^2.
- Observe cells under a microscope, at about 90 % confluence passage the cells for another 2-3 passages.

If normal growth is obtained transfer cells into:

Step 2: 5 % FBS + 5 % Panexin

- Seed cells at 5 x 10^3 – 20 x 10^3 cells/cm^2.
- Observe cells under a microscope, at about 90 % confluence passage the cells for another 2-3 passages.

If normal growth is obtained transfer cells into:

Step 3: 2.5 % FBS + 7.5 % Panexin

- Seed cells at 5 x 10^3 – 20 x 10^3 cells/cm^2.
- Observe cells under a microscope, at about 90 % confluence passage the cells for another 2-3 passages.

If normal growth is obtained transfer cells into:

Step 4: 1 % FBS + 9 % Panexin

- Seed cells at 5 x 10^3 – 20 x 10^3 cells/cm^2.
- Observe cells under a microscope, at about 90 % confluence passage the cells for another 2-3 passages.

If normal growth is obtained transfer cells into:

Step 5: 10 % Panexin

- Seed cells at 5 x 10^3 – 20 x 10^3 cells/cm^2.

Observe cells under a microscope.

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For some cells an adaptation to serum-free conditions is difficult to reach or even impossible.
The following measures may help to facilitate a successful adaptation:

- Reseeding with a higher cell amount (about 2x to 4x of the usual cell density).
- Addition of growth factors (if known, which factors have a positive effect on the relevant cells).
- Coating the culture dishes or flasks with attachment factors (e.g. fibronectin, laminin, collagen, gelatine, etc).
- Change the basal medium. Note: A change of the basal medium to a richer or more complex formulation may be all that is needed to achieve growth in serum free condition.

Technical support

For 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.

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[a] As a basal medium, standard media such as RPMI 1640, DMEM (high or low glucose), DMEM/F12, IMDM etc. can be used. Make sure that L-glutamine is present in sufficient quantity (supplement L-glutamine as needed).

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