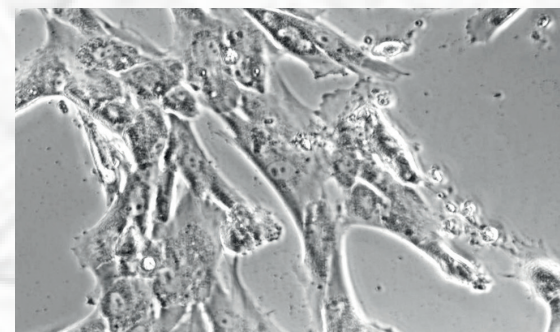
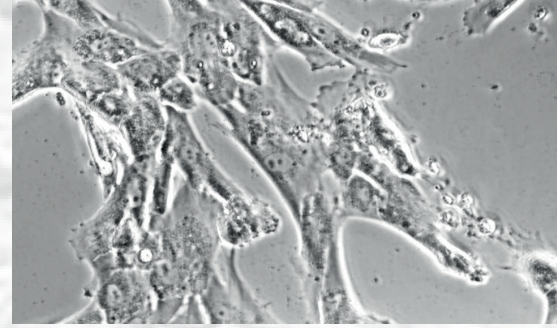


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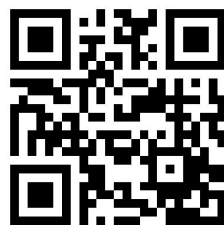
Serum-Free Media



Cell culture goes vegan!



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OVERVIEW

About PAN-Biotech

PAN-Biotech is a German-based company manufacturing and distributing sera, media, serum-free systems, biologicals, reagents and other cell culture products. During the last 27 years PAN-Biotech demonstrated its strength with innovative, first-class quality products and excellent service for cell culture around the globe.

**Production takes place in Aidenbach, Bavaria:
„Quality - Made in Germany“!**

The product development is based on the needs and requirements of industry and researchers. Individual wishes are always welcome.

Privately owned and managed PAN-Biotech guarantees highest quality at competitive prices.

PAN-Biotech - Your expert around cell culture.

PAN-Biotech Serum-free Media

Serum-free cell media have increasingly become an important but challenging topic for many cell products and cell cultivation processes.

With more than 16 years of professional experience in providing serum-free solutions for customers worldwide, PAN-Biotech has developed a product portfolio of more than 450 different media products for a wide range of cell cultures.

Advantages

- ✓ **Compliance with legal requirements for the manufacture of medical products**
- ✓ **Compliance with legal requirements for importing biotechnological products**
- ✓ **Lower risk of contamination**
- ✓ **Reproducibility**
- ✓ **Costly batch testing can be dispensed**
- ✓ **Simplified downstream processing**



SERUM SUBSTITUTES

Use Panexin to develop your own serum-free media.

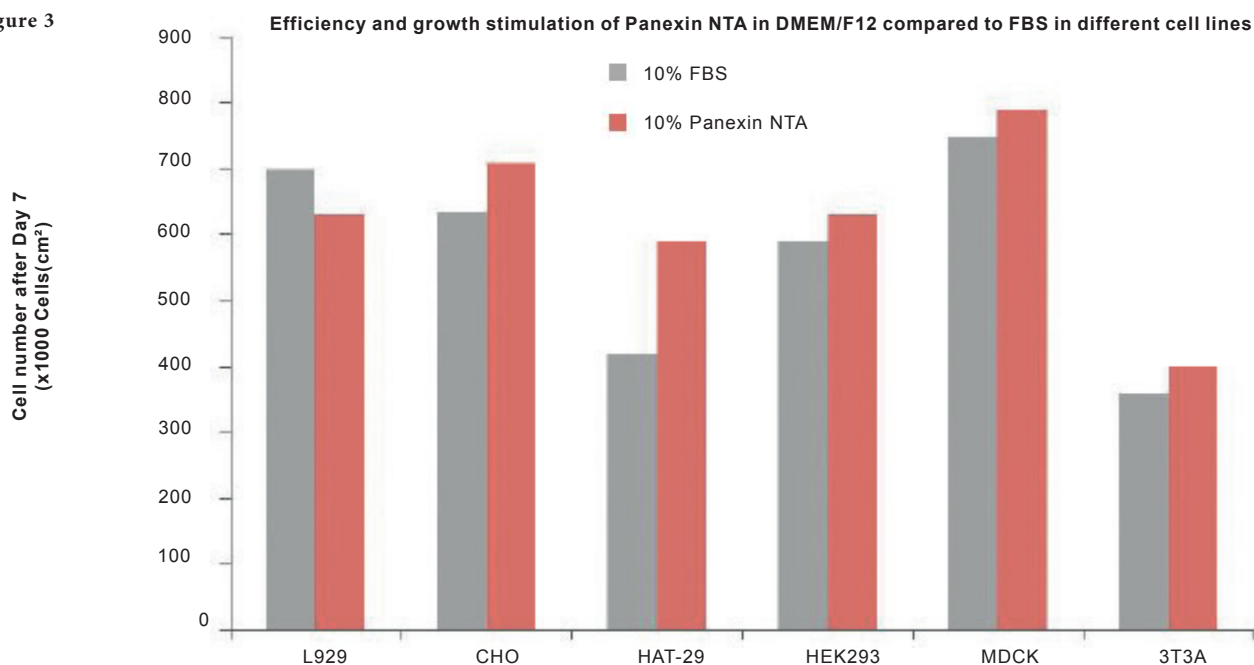
The serum substitutes (Panexin) developed by PAN-Biotech can be used for many cell lines to replace FBS. Due to selected and pretested raw materials Panexin batches are very homogeneous. Therefore the complex batch testing known from FBS can be omitted with the use of Panexin.

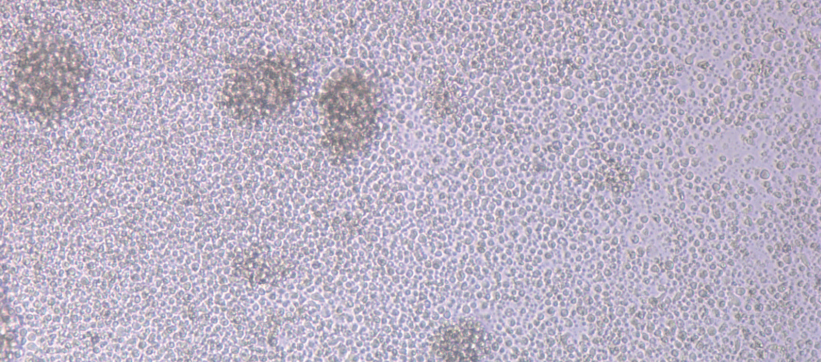
In addition there is no need to change the previously used basal medium. Panexin is completely chemically defined and contains no growth factors, undefined peptones or hydrolysates.

Medium	Suitable Cells	Availability	SFM	PF	ADCF	HDCF	CD
Panexin basic	Adherent and suspension cells	✓	✓				✓
Panexin NTA	Wide range of adherent cells	✓	✓				✓
Panexin NTS	Wide range of suspension cells	✓	✓				✓
Panexin NTA Pharma Grade	Wide range of adherent cells	✓	✓		✓		✓
Panexin NTS Pharma Grade	Wide range of suspension cells	✓	✓		✓		✓
Panexin BMM	Mouse bone marrow macrophages	✓	✓				

SFM: Serum Free Medium PF: Protein Free ADCF: Animal Derived Components Free HDCF: Human Derived Components Free CD: Chemically Defined

Figure 3





MEDIA FOR LYMPHOCYTES

With the immunological cell therapy moving to commercialization the demand of scalable production of immune cells also increased significantly.

PAN-Biotech has developed a wide range of serum-free media for the effective *in vitro* expansion of immune cell cultures.

Medium	Suitable Cells	Availability	SFM	PF	ADCF	HDCF	CD
Panserin 413	T cells, NKT and CIK cells	✓	✓				
Panserin 416	Dendritic cells	✓	✓				
Panserin 701	Lymphocytes	✓	✓				✓
Panserin 411S	Myeloid/lymphoid cells	✓	✓				✓
<i>And more!</i>							

SFM: Serum Free Medium **PF:** Protein Free **ADCF:** Animal Derived Components Free **HDCF:** Human Derived Components Free **CD:** Chemically Defined

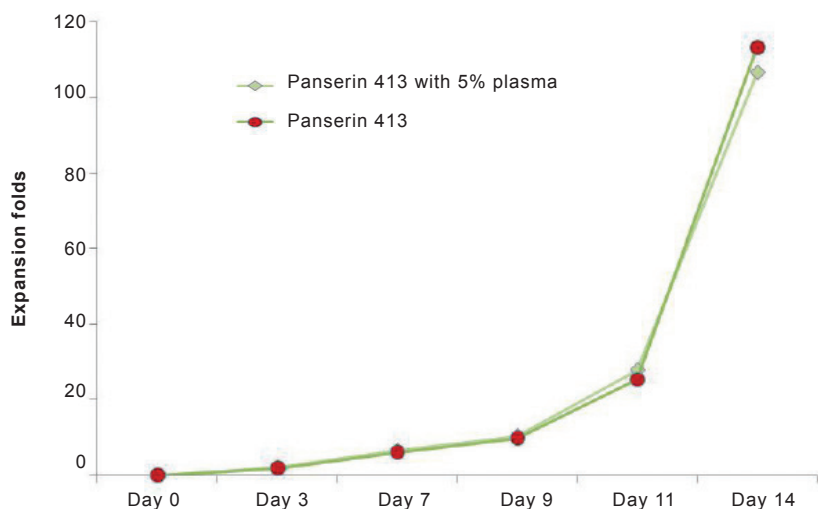


Figure 4: It shows expansion folds of Panserin 413 with 5% plasma in comparison to Panserin 413 within 14 days.





MEDIA FOR STEM CELL CULTURE

Stem cell media free of animal-derived components

PAN-Biotech offers a broad range of serum-free media for stem and progenitor cells in the most important fields of research and development. Most of the media are developed free of animal-derived

components to meet the demand of clinical applications, especially with respect to regenerative medicine, toxicology and diagnostics.

Medium	Suitable Cells	Availability	SFM	PF	ADCF	HDCF	CD
PowerStem HE	Human embryonic stem cells	✓	✓		✓		✓
PowerStem iPS	Human induced pluripotent stem cells	✓	✓		✓		✓
PowerStem MSC	Human mesenchymal stem cells	✓	✓		✓		
PowerStem HPSC	Human hematopoietic stem cells	✓	✓		✓		✓
PowerStem PEC	Human angiogenetic stem cells	✓	✓				
<i>And more!</i>							

SFM: Serum Free Medium **PF:** Protein Free **ADCF:** Animal Derived Components Free **HDCF:** Human Derived Components Free **CD:** Chemically Defined

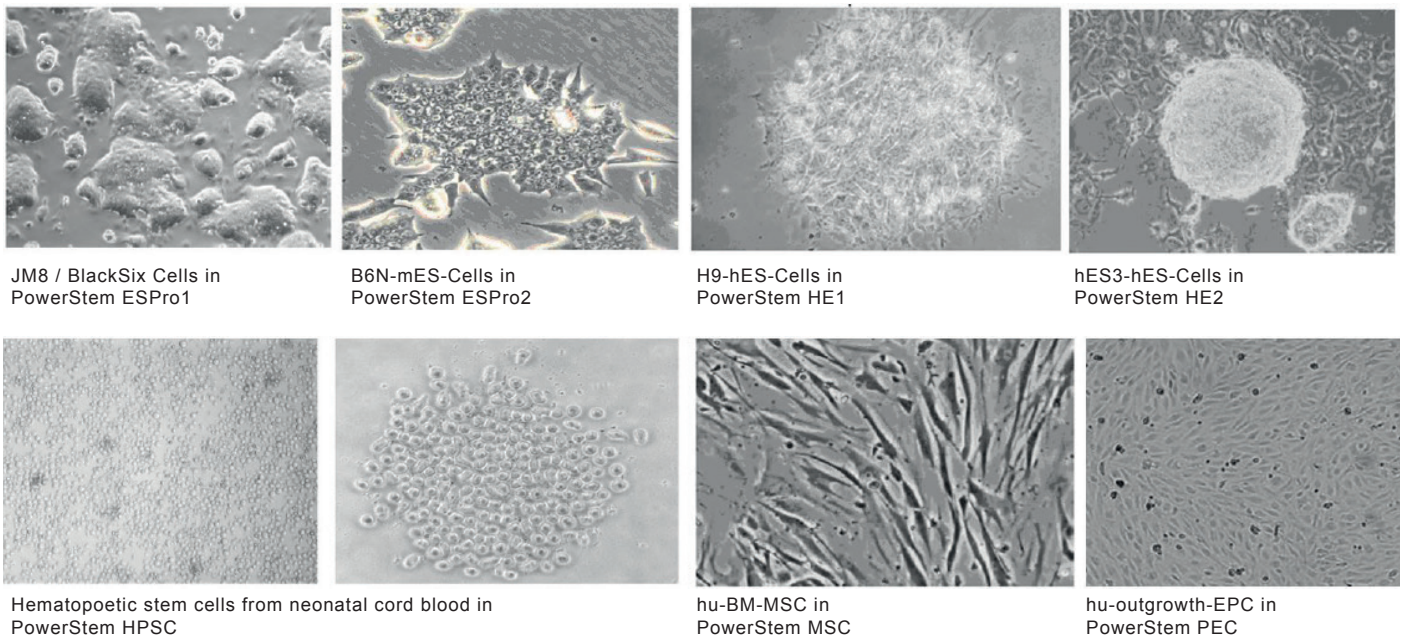


Figure 5: Microscopical pictures of different stem cell cultures.



OTHER CELL SPECIFIC SERUM-FREE MEDIA

PAN-Biotech also produces many other cell specific serum-free media for toxicology, tissue engineering, industrial vaccine and antibody productions.

Medium	Suitable Cells	Availability	SFM	PF	ADCF	HDCF	CD
Endopan 300SL	Human endothelial cells	✓	✓				
Panserin 293S	HEK-293 (suspension)	✓	✓		✓	✓	
Panserin 293A	HEK-293 (adherent)	✓	✓		✓	✓	
Panserin 401	Wide range of different cells	✓	✓				✓
Panserin 801	Human keratinocytes	✓	✓				
Panserin C6000	CHO (suspension)	✓	✓	✓	✓	✓	
Panserin H4000	Hybridoma (suspension)	✓	✓	✓	✓	✓	
Panserin ProVero	Vero cells (adherent)	✓	✓				✓
Spodopan	Insect cells (suspension)	✓	✓	✓	✓	✓	
<i>And more!</i>							

SFM: Serum Free Medium **PF:** Protein Free **ADCF:** Animal Derived Components Free **HDCF:** Human Derived Components Free **CD:** Chemically Defined

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