

# Panserin 413

## Serum-free medium for T and CIK cells

Panserin 413 is a ready-to-use medium optimized for the serum-free *in vitro* cultivation of human immune cells isolated from peripheral whole blood.

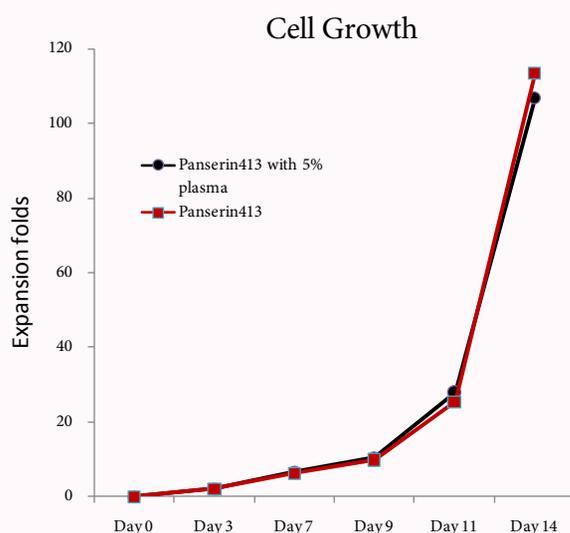
Product	Size	Catalogue-No.
Panserin 413	500 ml	P04-71413

Based on RPMI 1640 and DMEM-F12 the medium was optimized with additional salts, trace elements, albumin, cholesterol, lipids and vitamins.

The formulation allows the cultivation and expansion of T-cells, CIK, LAK and NK cells in suspension culture without the addition of bovine serum or (autologous) human serum (See Fig 1).

Recombinant cytokines, required for the optimal growth of immune cells are not included in this product. This allows the flexibility to prepare a medium that meets users' own requirements.

For more information please check out the PAN-Biotech portfolio of cytokines and growth factors ([www.pan-biotech.com/en/products-pan-biotech/biologicals](http://www.pan-biotech.com/en/products-pan-biotech/biologicals)) or contact our local distributor.



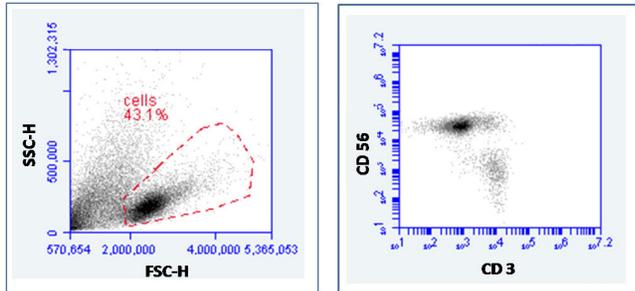
**Figure 1:** Panserin 413 allows effective expansion of CIK cells *in vitro*.

CIK cells derived from peripheral blood mononuclear cells (PBMC, isolated with **Pancoll human** (Cat. No. P04-60100)) were cultivated in **Panserin 413** at 37°C with 5% CO<sub>2</sub>. Cells were inoculated with a concentration of 1.2 x 10<sup>6</sup> cells / mL at Day 0. After two weeks over 100 fold cell expansion of CIK cells was observed. The addition of 5% autologous plasma did not show any impact on the performance of cell growth.

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### FACS Analysis for two color staining



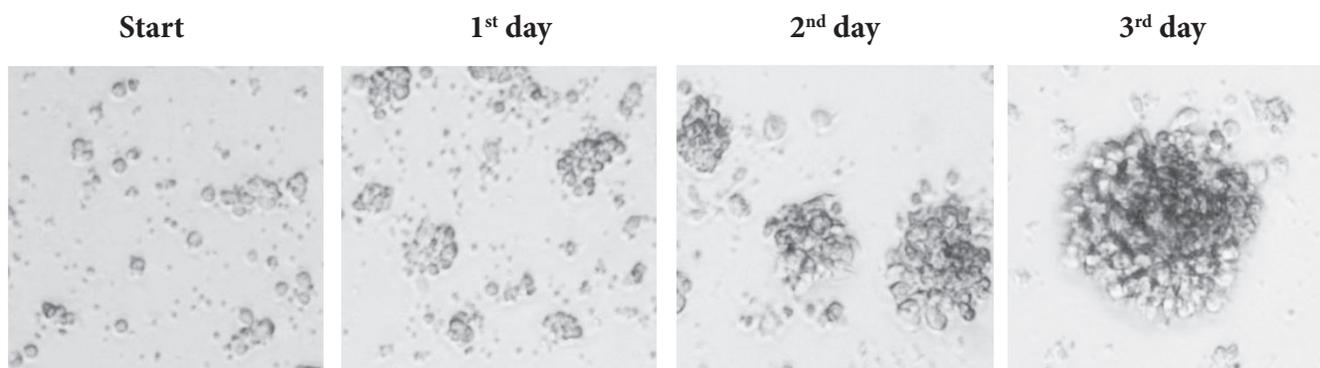
**Figure 2:** Flow cytometry analysis of leukocytes.

Enrichment of CIK cells from full blood after stimulation and cultivation in Panserin 413. IF-staining with CD3-PE, CD56-FITC.

### Advantages

- No need to supplement with serum
- No batch-to-batch variations
- Lower risk of contamination
- Reliable and reproducible cell differentiation
- Customized formulation available (e.g. with lower glucose concentration or without phenol red).

To learn more about how to use Panserin 413 please see the datasheet provided on our homepage ([www.pan-biotech.de/Datasheets/Datasheet\\_Panserin\\_413.pdf](http://www.pan-biotech.de/Datasheets/Datasheet_Panserin_413.pdf)) or contact our local distributor.



**Figure 3:** T cell stimulation (0.5% PHA) from whole blood of a healthy female donor

Lymphocyte isolation with **Pancoll human** (Cat. No. P04-60100) Live cell microscopy with **PANsys 3000** (PAN-Biotech)

## Ordering information

Product	Size	Catalogue-No.
Panserin 413	100 ml	P04-71413M
	500 ml	P04-71413
	1000 ml	P04-71413S
Pancoll human	100 ml	P04-60100
	500 ml	P04-60500

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