



Miltenyi Biotec

# TumorMACS™ Media

- 胰腺、卵巢、腎臟和結腸腫瘤細胞專屬無血清培養基
- 可穩定擴增來自實體瘤的原代細胞系
- 保留原始腫瘤異質性，腫瘤起始能力和遺傳穩定性
- 改善用於癌症研究的體外模型和藥物篩選

購買任一款 TumorMACS™ Medium  
送 Pre-Separation filter  
(70 μm) / 25 顆



## 從實體瘤獲得原代細胞系



### Collection and shipment of samples

- Sample collection
- Storage of tissue in MACS® Tissue Storage Solution
- Shipment, if necessary



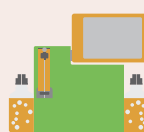
### Tumor dissociation

- Tumor Dissociation Kit, human for primary human or human xenografted tumors
- Cultivation\* of unsorted cells (e.g. including fibroblasts)



### Isolation of tumor cells

- Tumor Cell isolation Kit, human or Mouse Cell Depletion Kit for isolation of tumor cells
- Cultivation\* of pure tumor cells



### Flow cytometric analysis

- Determination of sample composition
- Phenotyping of tumor cells



### \*Cultivation

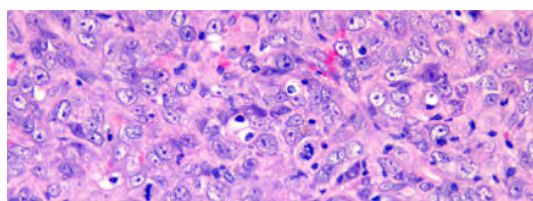
- Plate  $2 \times 10^5$  cells/cm<sup>2</sup> in TumorMACS™ Medium
- Incubate at 37 °C and 5–7.5% CO<sub>2</sub>
- Change medium every 4–5 days or as soon as it turns yellowish
- Split or remove fibroblasts at confluency of 80–90%

Workflow overview on how to establish a stable cell line from primary tumor cells.

Order no.	Products	說明
組織保存		
130-100-008	MACS® Tissue Storage Solution	組織浸泡此溶液中，在 48 小時以內，保存 2-8 度狀態下，可維持組織細胞活性
組織解離成單顆細胞		
130-096-427	gentleMACS™ Octo Dissociator with Heaters	組織均質成單細胞的儀器，有 37 度加熱功能
130-095-929	Tumor Dissociation Kit, human	針對人類腫瘤調配的解離酵素試劑
移除非腫瘤細胞 (磁珠分選方式)		
130-108-339	Tumor Cell Isolation Kit, human	
130-104-694	Mouse Cell Depletion Kit	
SERUM-FREE 腫瘤培養基 (依據癌別特別調配)		
130-119-484	Pancreas TumorMACS Medium	胰臟癌培養基
130-119-483	Ovarian TumorMACS Medium	卵巢癌培養基
130-119-482	Renal TumorMACS Medium	腎臟癌培養基
130-127-169	Colon TumorMACS Medium	大腸癌培養基

## 保留初始腫瘤的異質性 (heterogeneity)

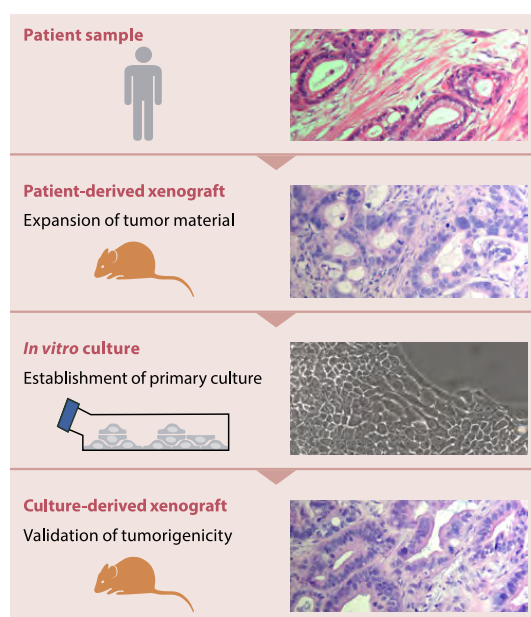
已建立的癌細胞系的腫瘤，例如胰腺癌細胞系 PANC-1 無法反映組織學和人類原發性腫瘤的功能特徵，因此無法與原始組織直接做對比。



PANC-1-derived xenografts show a homogeneous histology.

相比之下，TumorMACS™ 培養基培養的原發性腫瘤的細胞系或患者的異種移植體 (xenografts) 保留其初始異質性。這種形態和表型異質性以及保留腫瘤起始能力和遺傳穩定性，改善體外模型使其更接近與真實腫瘤狀態。

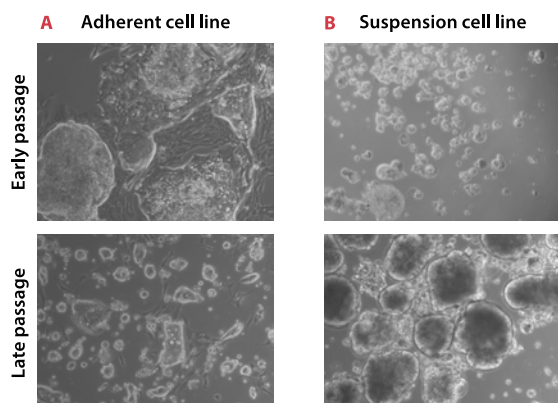
Patient-derived pancreatic tumor cells were injected into mice. Tumor tissue was extracted from the xenograft, cultured in Pancreas TumorMACS Medium over multiple passages, and re-injected into mice for the validation of tumorigenicity.



## 支持貼壁和懸浮型原代腫瘤細胞擴增

TumorMACS 培養基支持貼壁和懸浮細胞培養物的生長。如果各別腫瘤的內在特徵促進這些結構的形成，例如類似球體 (Spheroid-like) 結構可能會自發出現。這一點尤其重要，因為即使是上皮腫瘤細胞樣本在類球體結構的懸浮培養中也可能比在貼壁培養中生長得更好。

此外，一些細胞系在傳代時可能會在貼壁和懸浮狀態之間轉換。因此需要仔細檢查培養物，尤其是在傳代後，不應立即丟棄漂浮的細胞。



### Establishment of adherent or suspension culture.

The images show two different cell lines, derived from the same primary pancreatic adenocarcinoma, growing in adherent or suspension culture. During initial cultivation of the primary tumor cells, some cells detached, grew in suspension (B), and gave rise to a separate cell line, distinct from the cells that kept their adherent characteristics (A). Pancreas TumorMACS Medium supported cell expansion both in adherent and suspension cultures. Remarkably, in the samples shown, the epithelial tumor cells grew better in a suspension culture of spheroid-like structures (B vs. A).