

# ProstaCult™

## Mouse Prostate Epithelial Progenitors

### ProstaCult™: Detect 7 Times More Mouse Prostate Epithelial Progenitors

Prostate cancer is the most common type of cancer affecting males in the Western world.<sup>1</sup> Despite current therapies such as surgery, radiation therapy and androgen ablation,<sup>2</sup> this cancer can relapse and develop into a metastatic disease. It is thought that relapse may occur because the prostate cancer arises from neoplastic transformation of normal prostate epithelial stem cells (PESC) or transit amplifying cells (TAC).<sup>3</sup> Understanding the mechanisms of PESC and TAC differentiation would allow for the identification of cells involved in prostate cancer.<sup>2</sup> Consequently, PESCOs and TACs are routinely assessed with in vitro prostate colony-forming cell assays.<sup>4,5</sup>

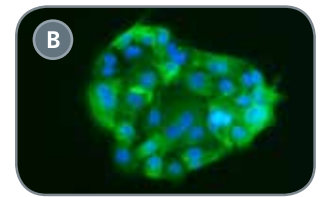
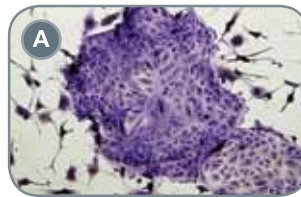
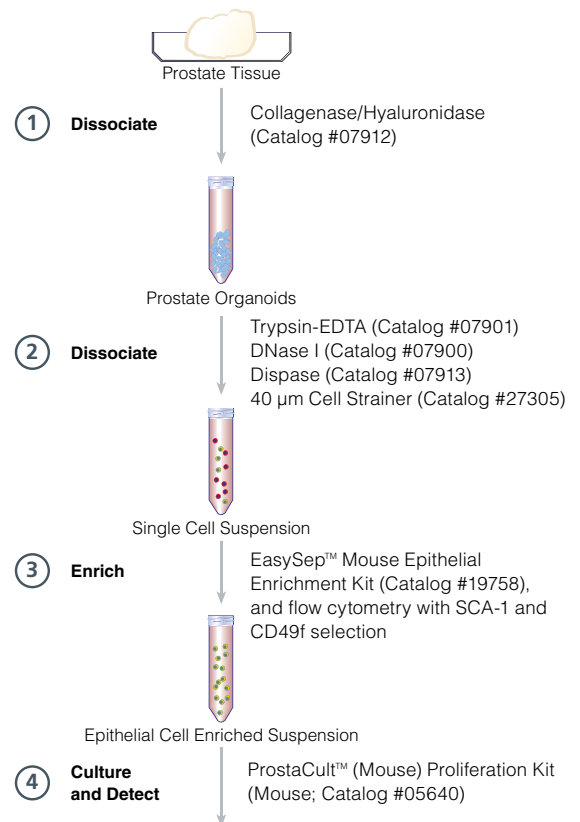
ProstaCult™ Proliferation Kit is an optimized and standardized medium for the detection of mouse prostate epithelial progenitors. ProstaCult™ has low lot-to-lot variability and enables the enumeration of up to 7 times more mouse prostate colony-forming cells, when compared to published formulations<sup>4</sup> and when used with provided tissue-dissociation protocols. Learn more about the protocols and ProstaCult™ at [www.stemcell.com](http://www.stemcell.com).

#### ProstaCult™ Proliferation Medium (Mouse) is optimized for:

- Proliferation of prostate progenitors
- Enumeration of prostate progenitors in a colony forming cell assay
- Short-term culture of prostate epithelial cells

PRODUCT	COMPONENTS	CATALOG #
ProstaCult™ Proliferation Kit (Mouse)	ProstaCult™ Basal Medium (495 mL) ProstaCult™ Proliferation Supplements (5 mL)	05640

**FIGURE 1.** Brief protocol schematic for the isolation and culture of mouse prostate epithelial cells



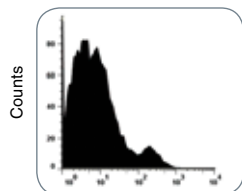
Phase contrast photographs of (A) a mouse prostate epithelial cell colony visualized using Wright-Giemsa and (B) an immunofluorescent image of a mouse prostate epithelial colony cultured in ProstaCult™ and stained to detect nuclei (DAPI-blue) and cytokeratin 5 (green). These colonies are cultured in conjunction with an irradiated feeder layer (NIH 3T3).

### Enrichment of Mouse Epithelial Cells

Isolate untouched mouse epithelial cells from freshly dissociated mouse tissues with column-free EasySep™ from STEMCELL Technologies. This kit removes contaminating hematopoietic, endothelial and some stromal cells from cell preparations. The EasySep™ Mouse Epithelial Cell Enrichment Kit uses a combination of antibodies and magnetic beads to target unwanted cells (those expressing CD31, CD45, BP-1 and TER119) for depletion with an EasySep™ magnet. The remaining unlabeled cells contain an enriched population of epithelial cells.

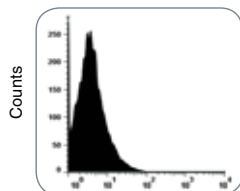
As Lawson et al. have demonstrated, enriched populations of epithelial cells which are positive for SCA-1 and CD49f antigens<sup>4</sup> can self-renew and differentiate to produce prostatic tubule structures containing both basal and luminal cells.<sup>4</sup>

Start: 10.37 ± 0.50% of cells expressing one or more of the following markers: CD45, Ter119, CD31, and/or BP-1.



Goat Anti-Rat IgG-FITC

Enriched: 1.12 ± 0.22% of cells expressing one or more of the following markers: CD45, Ter119, CD31, and/or BP-1.



Goat Anti-Rat IgG-FITC

Purity has been assessed by staining with goat anti-rat IgG FITC, which recognizes the antibodies used to deplete unwanted cells expressing CD31, CD45, BP-1, and TER119.

### Support Products for Prostate Research

PRODUCT	COMPONENTS	CATALOG #
rh EGF	200 µg	02633
rh EGF (Carrier Free)	200 µg	02653
rh bFGF	25 µg	02634
rh bFGF (Carrier Free)	25 µg	02654
10X Collagenase/ Hyaluronidase	10 mL	07912
Dispase (5 mg/mL)	100 mL	07913
Trypsin-EDTA	500 mL	07901
DNase I	1 mL	07900
Hanks' Balanced Salt Solution Modified	500 mL	37150
Tissue Culture Dishes	10 dishes 500 dishes	27115 27120
Fetal Bovine Serum	100 mL 500 mL	06100 06150
40 µm Cell Strainer	50 strainers/case	27305

### References

1. Gronberg H. Lancet 361:859-864, 2003
2. Miki J and Rhim JS. Pros. Can. and Pro. Dis. 11:32-39, 2008
3. Uzgare AR and Isaacs JT. Int J Bioc Cell Bio 37:707-714, 2005
4. Lawson DA et al. PNAS 1:181-186, 2006
5. Hudson DL et al. Lab Invest. 8:1243-1250, 2000

PRODUCT	COMPONENTS	CAPACITY	CATALOG #
EasySep™ Mouse Epithelial Cell Enrichment Cocktail	EasySep™ Mouse Epithelial Cell Enrichment Cocktail	1 x 10 <sup>9</sup> cells	19758
EasySep™ Mouse Epithelial Cell Enrichment Kit*	EasySep™ Biotin Selection Cocktail		
	EasySep™ Magnetic Particles		

\* Requires an EasySep™ magnet (Catalog #18000) or "The Big Easy" EasySep™ Magnet (Catalog #18001)