BCIL **Biotech Consortium India Limited**

Novel Technology for Well-characterized, Robust Primary Mammary Epithelial Cells

TECHNOLOGY AVAILABLE FOR TRANSFER

UNMET NEED AND OPPORTUNITY

Milk derived primary Mammary Epithelial Cells (pMECs) are potential tools in pursuit of future scientific breakthrough as they represent 90% of in-vivo environment as compared to transformed cells. Lack of commercial availability of pMECs is a problem faced by researchers. Additionally longevity and viability of pMECs to undergo a set of experiments on an identical genotypic culture of primary cells, is a problem often recognized by scientists and industry while doing R&D for vaccine production etc. As per global report, primary cells market is expected to grow at a CAGR of 8.5% from 2018-2023 and Asian countries are the focus of this market growth.[1] Present technology offers itself as an opportunity for tapping the potential market and addressing the need for pMECs.

TECHNOLOGY

The technology for isolation and culturing to develop primary Mammary Epithelial Cells (pMECs) is a non-invasive method. The pMECs isolated from milk of lactating animal such as bovine (cow) and caprine (goat), retain their characteristics such as physiology and karyotype at higher passages also. This technology thus provides ready to use characterized pMECs - as powerful experimental platform for innovators/researchers in the domain of veterinary research. Being non-invasive, the technology offers itself as a ready to use tool without any legal, moral and ethical issues.

INTELLECTUAL PROPERTY

- Patent application filed in India in 2019

UNIQUE SELLING PREPOSITION

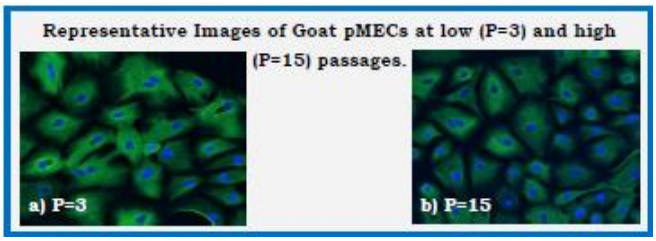
- Non-invasive method of pMECs isolation from lactating animal
- These milk derived pMECs have longer viability at higher passage number of even P=15
- Non-clustered adherent culture of pMECs till higher passages
- Maintains the Morphological and Genotypic characteristics

STAGES OF DEVELOPMENT

Proof of concept is established in lab set-up.

In-house Lab Validation–

- Parametric test for cellular characteristics such as morphology and karyotyping at higher passages
- Protein profiling of Casien-2 and Cytokiratin-18
- Repetitive culturing and revival of pMECs



APPLICATIONS

- Model system to study mammary specific diseases of animals such as mastitis, cancer, etc.
- Vaccine Production
- Drug Screening and Toxicity Analysis
- Gene Expression Studies

LICENCE OPPORTUNITY

BCIL is looking for a suitable industrial partner for commercialization of pMECs and specific culture media.

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