: Porcine; Colloid; Monolayer; Composition; Barrier integrity; Culture media

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Porcine colloid-derived monolayers have emerged as a valuable model system for studying cellular behavior and barrier properties in vitro [1,2]. ese monolayers, composed of cells derived from porcine colloid tissue, o er a physiologically relevant platform for investigating various biological processes, including cell-cell interactions, barrier function, and tissue regeneration. However, the cellular composition and barrier integrity of these monolayers can be in uenced by several factors, including the culture media and format used during their establishment and maintenance. Understanding the impact of culture media and format on porcine colloid monolayers is crucial for optimizing experimental conditions and enhancing the relevance of this model system for biomedical research. In this study, we aimed to elucidate how di erent culture media formulations and formats a ect the cellular composition and barrier integrity of porcine colloid-derived monolayers. By systematically examining the e ects of various media components and culture conditions, we sought to identify optimal conditions for promoting desired cellular phenotypes and enhancing barrier function within these monolayers [3-6]. Our ndings have the potential to inform the development of improved culture protocols for porcine colloid monolayers, thereby advancing their utility in applications such as tissue engineering, drug screening, and disease modeling.

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Porcine colloid-derived cells were isolated and cultured in vitro according to established protocols. Monolayers were established on tissue culture-treated plates or specialized inserts, depending on the experimental format. Various media formulations were prepared, including basal media supplemented with di erent combinations of growth factors, cytokines, and supplements. Media formulations were designed to promote speci c cellular phenotypes and enhance barrier integrity. Monolayer treatment and maintenance monolayers were cultured in di erent media formulations to assess their impact on cellular composition and barrier function. Media were replenished regularly to maintain cell viability and support monolayer growth. Assessment of cellular composition immuno uorescence staining was performed to visualize and quantify speci c cell types within the

expression patterns of epithelial, mesenchymal, and other cell