**PROJECT RESUME**

**TITLE**: The effect of changes to ECM composition on triple negative breast cancer progression

Triple-negative breast cancer (TNBC) is the most aggressive form of breast cancer, yet its treatment remains challenging due to the reliance on 2D cancer models that fail to replicate the tumour microenvironment. Key factors such as increased extracellular matrix (ECM) stiffness and elevated levels of collagen and hyaluronic acid (HyA) contribute to TNBC progression, but their role cannot be accurately studied using traditional models. Furthermore, the limitations of 2D models hinder drug discovery, leading to discrepancies between preclinical research and clinical outcomes. This project aims to develop a physiologically relevant 3D in vitro model using collagen-based scaffolds designed to mimic ECM stiffness and TNBC-associated changes. By providing a more accurate platform for studying TNBC progression, this research could lead to better therapeutic strategies and improved treatment outcomes.

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