

Jellagen® successfully supports the culture of Microglia Cells, demonstrating a more ramified “microglial-like” cell morphology compared to cells cultured on mammalian Rat Tail Collagen I and Laminin-511.

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The recent publication in the journal *Frontiers in Marine Science* titled ‘The Biological Evaluation of Jellyfish Collagen as a New Research Tool for the Growth and Culture of iPSC Derived Microglia’ has demonstrated that jellyfish collagen provides the functional characteristics expected from microglia and displayed a more ramified “microglial-like” cell morphology compared to cells cultured on mammalian rat tail collagen I and comparable to Laminin-511.

Jellagen collagen was evaluated for its potential to be used as an extracellular matrix to culture iPSC-derived microglia. These and other iPSC-derived cell lines enable scientists to overcome hurdles of obtaining primary cells from human fetal or adult CNS tissue in supporting the development of disease models.

Microglia are an important cell line for study, as they are the innate immune cells of the Central Nervous System (CNS). Microglia play important roles in synaptic plasticity, immune activity, neurogenesis and homeostasis. Microglia are known to be involved in neurological disorders such as Alzheimer’s Disease (AD).

The development of accurate disease models are essential for understanding disease pathogenesis and for developing new therapeutics. To achieve this, cells need to be cultured in optimal conditions for them to behave in a “real life” manner . The paper concludes that Microglial cells cultured on Jellagen® were more microglial “like” than cells cultured on rat tail collagen and tissue culture plastic showing promise for use as an optimal extra-cellular matrix in the development of more accurate disease models.

As we move toward ever more complex systems of co- and tri-cultures which will be a focus for the development of organoids, it will be an important feature to be able to culture all cell types on one extracellular matrix (ECM). Jellagen has been shown to be an excellent non-mammalian ECM alternative in the culture of microglia cells as it does not cause any activation or microglial cell death.

Professor Andrew Mearns Spragg, Founder & CSO of Jellagen, comment:

“We are really pleased with the outstanding results of this study. The unique features of Jellagen® collagen compared to mammalian collagen and other ECM proteins confirms our previous data that this new ECM scaffold is capable of high performance cell culturing of stem cell lines leading to the development of accurate disease models and new tissue engineering applications. I would also like to thank Censo Biotechnologies Ltd for their excellent support in conducting this study and for their excellent collaboration.”

To access the paper please click [here](#).

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