



## Methods And Culture Substrates For Controlled Induction Of Biomimetic Neural Tissues Comprising Singular Rosette Structures

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### The Invention

Described herein are methods, compositions, and kits for directed differentiation of human pluripotent stem cells, neuromesodermal progenitors, and neural stem cells into biomimetic neural tissues comprising one or more rosette structures. Preferably, the methods provided herein direct differentiation of human pluripotent stem cells, neuromesodermal progenitors, and neural stem cells into biomimetic neural tissues comprising a singular neural rosette structure that is comparable to at least a portion of the developing human neural tube. Also described are engineered neural tissue preparations comprising biomimetic neural tissues comprising a singular rosette structure having regional neural progenitor phenotypes.

### Additional Information

#### For More Information About the Inventors

- [Randolph Ashton](#)

#### Tech Fields

- [Drug Delivery : Other drug delivery technologies](#)
- [Drug Discovery & Development : Disease models](#)
- [Pluripotent Stem Cells : Culture](#)
- [Pluripotent Stem Cells : Differentiation](#)
- [Pluripotent Stem Cells : Tools](#)

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