



## REAGENTS AND METHODS FOR PRODUCING ARTERIAL HEMOGENIC ENDOTHELIUM, HEMATOPOIETIC PROGENITORS, AND LYMPHOID CELLS THEREBY

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### The Invention

UW-Madison researchers have developed methods for generating arterial hemogenic endothelium and hematopoietic progenitors using a 3D spheroid (75-150mM) "hanging drop" method, and they found enhanced production of T and NK cells from the arterial hemogenic endothelium produced by the method. The new method prepares the spheroid in a short period of time (12-24hrs), using defined medium supplemented with components that further support hematopoietic differentiation. The % of arterial hemogenic endothelium (AHE; characterized as CD144+CD73-CD43-DLL4+CXCR4+) population around the sphere is higher than previously reported methods (1-5% vs 10-20% with the present methods). Further, the hematopoietic progenitors generated around the sphere from AHE are 70-95% positive for CD34 and CD43. Finally, the inventors found enhanced production of T and NK cells from the arterial hemogenic endothelium produced by the method (CD7+CD5+~72-80%; CD8a+CD4 ~55.4-60%; CD8a+CD8b+~40-50% and CD56+CD16+~30-40%) at purity levels that have never been reported.

### Additional Information

#### For More Information About the Inventors

- [Igor Slukvin](#)

#### Tech Fields

- [Pluripotent Stem Cells : Culture](#)
- [Pluripotent Stem Cells : Differentiation](#)

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