

# STEMdiff™ Blood Vessel Organoid Kit

**For differentiation of human pluripotent stem cells (hPSCs) to blood vessel organoids**

Catalog #100-0651 1 Kit  
100-0658 100 mL



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

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## Product Description

Based on the formulation by Wimmer and Penninger<sup>1</sup> and using technology licensed from the Institute of Molecular Biotechnology (IMBA), this first-to-market kit is optimized to generate blood vessel organoids from human pluripotent stem cells (hPSCs). Compared to homemade organoid culture media formulations, organoids generated with this easy-to-use kit develop extensive vascular networks and strong endothelial cell-pericyte interactions—for more physiologically relevant 3D models. Use STEMdiff™ Blood Vessel Organoid Kit for a higher yield of organoids compared to homemade protocols, with the option to scale up for high-throughput screening in a 96-well format. The simple protocol also eliminates the need for serum screening and labor-intensive protocol optimization.

## Product Information

The following components are sold as a complete kit (Catalog #100-0651); STEMdiff™ Blood Vessel Organoid Maturation Medium is also available for individual sale.

COMPONENT NAME	COMPONENT #	SIZE	STORAGE	SHELF LIFE
STEMdiff™ Blood Vessel Organoid Aggregation Basal Medium	100-0652	60 mL	Store at 2 - 8°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Aggregation Supplement*	100-0653	15 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Induction Basal Medium	100-0654	100 mL	Store at 2 - 8°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Induction Supplement*	100-0655	1 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Mesodermal Induction Supplement**	100-0656	1 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Vascular Induction Supplement**	100-0657	1 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.
STEMdiff™ Blood Vessel Organoid Maturation Medium*	100-0658	100 mL	Store at -20°C.	Stable for 12 months from date of manufacture (MFG) on label.

\*This component contains material derived from human plasma. Donors have been tested and found negative for HIV-1 and -2, hepatitis B, and hepatitis C prior to donation. However, this product should be considered potentially infectious and treated in accordance with universal handling precautions.

\*\*Please refer to the Safety Data Sheet (SDS) for hazard information. This product contains components dissolved in dimethyl sulfoxide (DMSO). DMSO is a strong solvent and skin penetrant, and can transport many substances through the skin. DMSO can also penetrate some protective glove materials including latex and silicone. Extra caution should be utilized when handling this product.

## Directions for Use

For complete instructions, refer to the Technical Manual: Generation and Maturation of Blood Vessel Organoids Using STEMdiff™ Blood Vessel Organoid Kit (Document #10000010331), available at [www.stemcell.com](http://www.stemcell.com) or contact us to request a copy.

## Related Products

For related products, including specialized culture and storage media, supplements, antibodies, cytokines, and small molecules, visit [www.stemcell.com](http://www.stemcell.com) or contact us at [techsupport@stemcell.com](mailto:techsupport@stemcell.com).

## References

1. Wimmer RA et al. (2019) Generation of blood vessel organoids from pluripotent stem cells. *Nature Protocols* 14: 3082–100.

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