

Venous origin of the mammalian lymphatic vasculature

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In the October 1 issue of G&D, Dr. Guillermo Oliver (St. Jude Children's Research Hospital) and colleagues present new evidence to resolve a century-old debate over the origin of the mammalian lymphatic vasculature. Understanding the development of the lymphatic vasculature is integral to understanding its function in both health (mediating immunity and maintaining tissue fluid levels) and disease (lymphedema and spreading tumor metastasis).

The adult mammalian lymphatic vasculature is derived from a few embryonic lymph sacs. The debate has surrounded the cellular origin of the lymphatic vasculature: Does it arise from venous endothelial cells or does it arise in the mesenchyme and then establish venous connection later on in development"

Dr. Oliver and colleagues used genetically modified mice to perform elegant lineage tracing experiments, from which they concluded, quite definitively, that the mammalian lymphatic vasculature is venous-derived.

"Identifying the origin of any specific cell type is critical to understand the basic processes guiding the development of an organ. The detailed characterization of the formation of a normal healthy lymphatic vasculature is central to our efforts to prevent, diagnose, and hopefully cure lymphatic vasculature disorders," explains Dr. Oliver.

Source: Cold Spring Harbor Laboratory

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