Mural cell

The term mural cell refers generally to vascular smooth muscle cells and pericytes, both involved in the formation of normal vasculature and responsive to vascular endothelial growth factor (VEGF).

The weakness and disorganization of tumor vasculature is partly due to the inability of tumors to recruit properly organized mural cells.

Mural cells have contractile function. As the progenitors of smooth muscle cells (SMCs) and pericytes, mural cells themselves derive from the mesenchyme. Invasive endothelial become surrounded by locally-derived mesenchymal cells, meaning the surrounding primordium itself contributes the mural cells to the developing vessels. This is advantageous as it can result in tissue-specific functional and regulatory properties of pericytes, and SMCs. In contrast, endothelial cells are thought to be of uniform origin.

Pericytes are versatile vascular mural cells that regulate important neurovascular functions, including BBB integrity, CBF,neuroinflammatory responses, and brain angiogenesis [1) 2)].

1)
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2)
Winkler EA, Bell RD, Zlokovic BV: Central nervous system pericytes in health and disease. Nat Neurosci 14:1398–1405, 2011