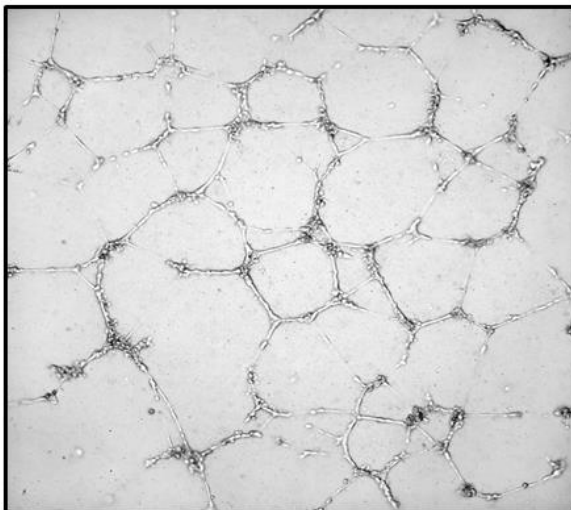


**2015-2018 – collaboration in the project No SEN-07/2015 „Novel systems of prodrug activation for the cancer gene therapies“, of the National Programme "Healthy Aging" funded by the Research Council of Lithuania, dr. A.Kazlauskas**

### **Studies of molecular mechanisms of glioma angiogenesis**

In these studies, we seek to establish a functional interaction between the autocrine and paracrine angiogenesis regulators secreted semaphorins (Sema3 family proteins) and VEGF-regulated signaling pathways. Currently, using the qRT-PGR method, we evaluate the expression levels of genes involved in Sema3 and VEGF-regulated processes (Sema3 family members, Sema3 receptor neuropilins and plexins, VEGF receptors) in astrocytomas of different malignancy grade. Using an *in vitro* system for angiogenesis, consisting of endothelial cells (HUVEC) seeded on the extracellular matrix and forming microcapillary structures, we investigate the effects of individual Sema3 proteins on angiogenesis. We use genetic engineering and protein purification methods to create recombinant Sema3 variants, which are expected to reveal: 1) key molecular features of the interaction of Sema3 / VEGF with neuropilins and 2) the possibility of the use of these angiogenic regulators for glioma therapy.

**HUVEC microcapillaries**



**Recombinant Sema3C proteins**

