

ANGIOPATH: A TOOL TO QUANTIFY AND MORPHOLOGICALLY CHARACTERIZE BLOOD AND LYMPH VESSELS

DESCRIPTION OF THE TECHNOLOGY

It is now widely accepted that tumour growth and metastasis are angiogenesis-dependent and that the lymphatic system, previously thought to play a passive role in cancer metastasis, is now known to play an integral role in the metastatic spread of disease

Our aim has been to develop ANGIOPATH, a morphometric tool able to perform an easy segmentation of blood and lymphatic vessels to study vascularization. ANGIOPATH is able to segment close and open vessels and to obtain information about the density, the size and the shape of total vascularization and of the vascularization of all vessel segments, according to their size.

ANGIOPATH:

- Recognizes stained structures corresponding to vessels
- Closes open-vessels. Supplies accurate density information
- Provides size and shape information
- Reports density, size and shape information for all vessel segments (i.e. capillaries, sinusoids or veins,) according to their size.

MARKET APPLICATION SECTORS

The main customers would be researchers on the field of vascularization, including the fields of cancer, inflammatory diseases, cardio-vascular or dermatology pathologies.

TECHNICAL ADVANTAGES AND BUSINESS BENEFITS

Unlike other image tools, ANGIOPATH:

- provides vessel closing when the whole perimeter of the vessels is not completely stained
- provides information of the different vessel-segments and not only of the total vascularization of the sample
- uses automatic algorithms, no requiring manual interaction but manual correction is allowed
- can process large image files

CURRENT STATE OF DEVELOPMENT

ANGIOPATH is ready to use or to be included in image analysis toolbox. ANGIOPATH has already been used to characterise and quantify blood and lymph vessels stained with CD31 and D2-40, respectively, in more than 500 neuroblastic tumour samples. Likewise, ANGIOPATH can be used to characterize blood vessels stained with other antibodies and, of course, ANGIOPATH can be used to characterize vascular structures in any type of tumoural or non tumoural samples, such as studies in inflammatory or neovascularisation.

INTELLECTUAL PROPERTY RIGHTS

ANGIOPATH is a copyrighted software and it has not been distributed outside our laboratory.

COLABORATION SOUGHT

We look for a software company in the field of biomedical image analysis willing to include ANGIOPATH in their image toolbox.

CONTACT

INCLIVA Innovation Unit
uai@incliva.es