The VivaScope 2500M-G4 is a confocal laser scanning microscope specially designed for the analysis of diagnostic biopsies and the assessment of tumor margins during surgery. Samples can be examined directly after an excision without time consuming procedures. Tissue preparation and staining take only minutes. For example, a tissue sample of 1 cm x 1 cm can be stained and imaged in less than 4 minutes.

Tumor margin assessment normally involves time-consuming procedures and requires additional materials, equipment, specialised technicians and space to prepare histological sections. Often, precious time is lost while waiting for the results. However, the VivaScope 2500M-G4 represents an innovative alternative; saving time, cost and materials.

No fixation and only a very quick staining procedure (less than one minute) are required after which the specimen can be examined immediately. The examined tissue is not affected by the procedure and can be processed for histology later on. The pathologist can start evaluating the images, immediately after the scan - even from a remote location.

Basal Cell Carcinoma
The VivaScope 2500M-G4 simultaneously uses two lasers with wavelengths of 488 nm (blue, fluorescence) and 638 nm (red, reflection). A fluorescent dye that is applied to the tissue prior to the VivaScope imaging process is excited by the blue laser, thus highlighting cellular structures (e.g., nuclei). Additionally, the infrared laser is used to generate a reflectance signal, showing structural information of the sample. Both reflectance and fluorescence signals are acquired and correlated in real-time. A built-in algorithm translates the signals into H&E-like pseudo-coloured images. The resulting images contain similar information to conventional histology and can be examined at any desired magnification, ranging from displaying the whole sample up to a 550-fold magnification.

Standard filter sets are integrated for the following fluorescent dyes: Acridine orange and Fluorescein (blue laser), as well as Indocyanine green (ICG – infrared laser).

To enhance usability, the VivaScope 2500M-G4 is equipped with a digital camera providing a colour image of the specimen. This macro image correlates precisely with the confocal image and thus allows for easy tissue navigation, visualisation of tissue marking ink and simplified selection of regions of interest.

A dedicated tissue flattening solution simplifies examining excised tissue regardless of its shape.