not typically work well for unstained tissue sections, as thin tissue sections are essentially transparent in visible light and therefore do not provide enough signal information to process accurately.

BRIEF DESCRIPTION

[0004a] In a first aspect, there is provided a method for locating a substantially circular-shaped tissue sample positioned on a solid support comprising: transmitting light of a preselected wavelength onto a tissue sample, wherein the light induces the tissue sample to autofluoresce; identifying center location of the tissue sample using the autofluoresced light; correlating coordinates of the center location of the tissue sample on the solid support using a two-dimensional coordinate system; and mapping the coordinates of the tissue sample on the solid support to differentiate tissue sample containing regions from blank regions on the solid support, wherein the correlating step comprises scoring pixel values of the autofluoresced light from the tissue sample.

[0004b] In a second aspect, there is provided an apparatus for locating a substantially circular-shaped tissue sample positioned on a solid support comprising: an imaging microscope having at least one objective lens to acquire images at different magnifications and a stage to hold a tissue sample; an excitation source to illuminate the tissue sample on the stage; a digital image device connected to the microscope to acquire and digitize the images of the tissue sample; a storage device in communication with the digital image device capable of storing the digitized images of the tissue sample; and a processor in communication with the storage device and configured to categorize the digital images and generate one or more match filters based on a correlation factor, wherein said correlation factor comprises scoring pixel values of autofluoresced light from the tissue sample.

[0005] Herein disclosed is a~~In a first aspect, the invention provides~~ method for locating one or more substantially circular-shaped tissue sample positioned on a solid support. The method involves the steps of transmitting light of a preselected wavelength onto a tissue sample, wherein the light induces the tissue sample to autofluoresce, identifying the center location of the tissue sample using the autofluoresced light, correlating the coordinates of the center location of the tissue sample on the solid support using an x, y-coordinate system, and mapping the coordinates of the tissue sample on the solid support to differentiate tissue sample containing regions from blank regions on the solid support.

[0006] Also disclosed is~~In a second aspect, the invention provides~~ an apparatus for locating one or more substantially circular-shaped tissue sample positioned on a solid support. The apparatus comprises a imaging microscope having at least one objective lens to acquire images at different magnifications and a stage to hold the sample on the solid support, an excitation source to illuminate the sample on the stage, a digital image device connected to the microscope to acquire and digitized the images of the sample, a storage device in communication with the digital image device capable of storing the digitized images of the sample; and a processor in communication with the storage device and capable of categorizing the digital images and generating one or more match filters based on a correlation factor.

DRAWINGS

[0007] These and other features, aspects, and advantages of the present invention will become better understood when the following detailed description is read with reference to the accompanying drawings in which like characters represent like parts throughout the drawings, wherein:

[0008] FIG. 1 is a schematic diagram of a multi-step method of image acquisition and analysis embodying the invention.