Supplementary Table S1. Basic terminology of digital pathology

Definition	Detailed explanation
Digital pathology (DP)	Dynamic imaging environment or academic field related to this environment, which involves the acquisition and management of pathologic information through converting the microscopic glass slides into digital files and the pathologic diagnosis and interpretation of these images by an image display device. The scope of application includes education, research, image analysis, archiving, retrieval, connection to laboratory information system, consultation between specialists, and image sharing.
Digital pathology system (DPS)	Image data-based computer system that enables the collection, management, and interpretation of pathologic information by digitalizing glass slides. It includes a scanner comprising an optical microscope and a digital camera connected to a computer, software, and a network connection.
Digital image analysis	Analytical method for quantifying or detecting the unique features of enhanced or processed digital images using a computer, such as chromosomal and morphometric analyses of fluorescence in situ hybridization (FISH) or immunohistochemical staining images.
Computer-aided diagnosis (CAD)	Aids in the interpretation of medical images by providing differential diagnosis or detection of lesions by digital image analysis using a computer.
Telepathology	Digital or real-time pathologic image communication environment using wired or wireless networks or a related academic field. Telepathology could be used largely for consultation with specialists in other areas or the diagnosis of samples in a remote facility. Two methods are available: the conventional method uses a remote-control microscope for real-time transmission of glass slide images and the transmission of WSIs acquired by a scanner.
Whole slide image /imaging (WSI)	A single high-resolution glass slide image file or associated technology that has been scanned and converted from a single glass slide using a whole slide scanner. With this high-resolution copy or mirrored image of a glass slide with equivalent quality, image viewing software can create a virtual environment for pathologic diagnosis that mimics the conventional pathology environment of microscopic diagnosis. This is also referred to as a virtual slide or virtual microscopy.
Image input device	The initial processing device for converting actual images of a landscape, persons, photographs, paper records, and glass slides into electronic signals and recording them as digital data.
Whole slide scanner (WSS)	Device used to scan glass slides and digitally convert them to WSIs. A WSS is generally run by image acquisition (operating) software and a WSI is generated by combining multiple small, continuously acquired high-resolution image tiles or strips at various magnifications, such as 20×, 40×, 60×, or 100× (corresponding to 200, 400, 600, or 1,000 times magnification under a general light microscope). The digital image data can be saved using a variety of compression methods.
Focus stacking (Z-stacking)	Image processing technique used to combine digital images acquired at varying focus levels to obtain a much greater depth of field than that of the individual original images. When obtaining images of samples with many 3-dimensional microstructures and cell clusters, such as cytology slides, it is difficult to obtain the appropriate depth of field with a single focus. Thus, combining multiple images at slightly different levels of Z-axis using various image processing methods is needed to convert into a single image file.
Image acquisition software	Computer software used to operate and control the WSS device to allow images to be acquired and saved in the appropriate format, compression rate, and compression method.
Image viewing software	Computer software used to enable the acquired image data to be viewable through an image display device such as a monitor. The software may also provide observation functions for comparing two or more images, as well as for panning the image laterally or zooming in and out of areas of interest. The software may also support other functions such as basic length and area measurements, saving screenshots in compatible image file formats, or recording user annotations during review.
Image database	Computer system and software used for the compression, management, and mass storage

system	of acquired image data.
Picture archiving and communication system (PACS)	A system that archives, processes, and transmits digital medical images in accordance with the international standard Digital Imaging and Communications in Medicine (DICOM) format. A PACS comprises image viewing and archiving software, a mass storage device, and a computer hardware system. Its typical functions include data archiving and transfer, including text data such as interpretation reports and data acquired by medical imaging devices (computed tomography, magnetic resonance imaging, etc.). Systems based on a similar concept include a pathology PACS that manages pathologic images.
Laboratory information management system (LIMS)	Also referred to as a laboratory information system (LIS), this software-based system is designed to manage information related to the overall operation of a laboratory.
Electronic medical record (EMR)	An EMR is the digital medical information of patients comprising all data obtained during diagnosis and treatment. The EMR, along with the order communication system, constitute the hospital information system (HIS), which is vital in the digitalization of medicine.
Quality Assurance (QA)	Activities performed by a quality control manager to assure that certain material, data, products, or services (in this recommendation draft, it refers to examination services inside a laboratory) have functions or results that comply with or satisfy established technical requirements.
Quality control (QC)	QC, also referred to as quality management, refers to laboratory analysis activities designed to improve the quality of test results by detecting and correcting defects that may occur during the experimental processes of all tests conducted within a laboratory. QC could be divided into internal QC, standard operating procedures and regulations set by the laboratory itself, and external QC, verified and approved by the FDA, member organizations of the International Laboratory Accreditation Cooperation (ILAC), or agencies that operate proficiency assessment programs in accordance with international standards.
Validation	Validation refers to the process of confirming whether equipment, reagents, and test methods that have already been verified can be appropriately applied to the individual laboratory in question according to certain standards before they are implemented. The validation should be established by documents that provide a high level of assurance.