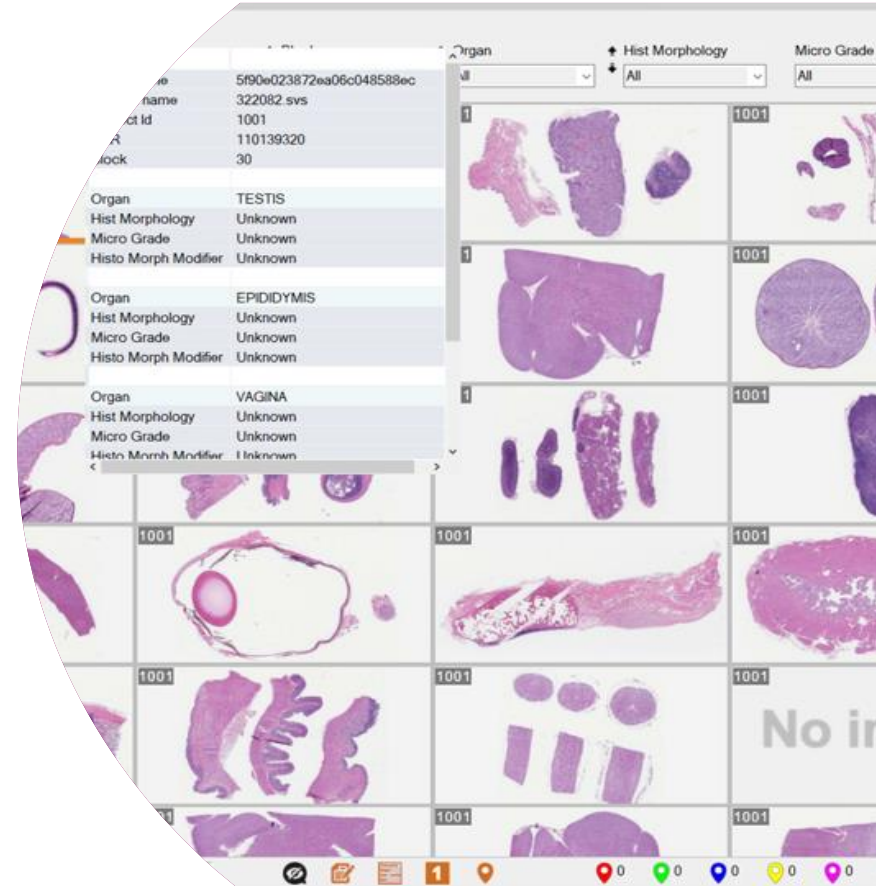


The use of Digital Pathology for GLP compliant Primary Pathology Evaluation and Peer Review

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GLP implications for WSI use

- No specific regulatory guidance on WSI use for GLP studies
- 2020 OECD update to GLP FAQs did not preclude the use of digitised histopathology slides in GLP studies
 - *WSI should be a 'faithful replica' of the original slide*
 - *Evaluation of WSI should be 'equivalent' to glass slides*
 - *The concept of digitised 'slide integrity' and the need for validation of all laboratory instruments (scanners) and IT systems used through the entire workflow*
 - *Only WSI that contribute to raw data need archiving*
 - *The usual principles that underpin GLP are followed*



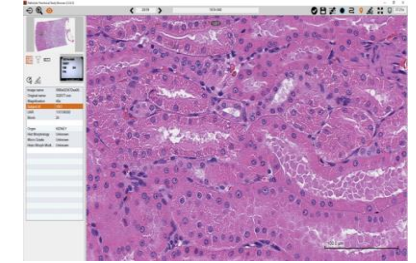
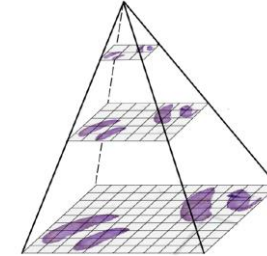
What do WSI represent in GLP?

Specimens



- Specimen means any material derived from a test system (animal) for examination or analysis
- Specimens are archived

WSI files



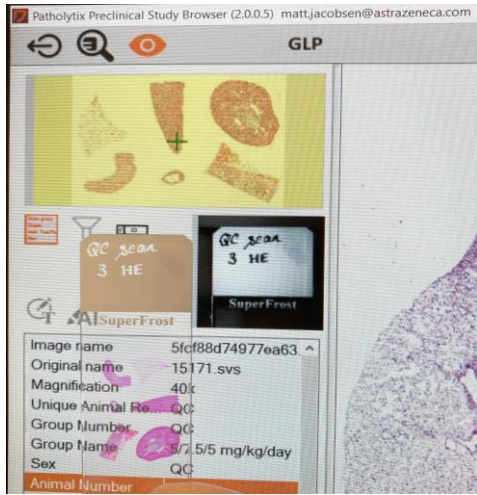
- Don't meet the definition of specimens
- Don't meet the definition of raw data
- Not considered 'true copies' of slides
- 'Faithful representation of a glass slide'

Broad consensus that only WSI that contribute to raw data generation require archiving



OECD FAQ - Equivalence and Faithful Replica

Faithful replica



- The WSI as a 'copy' of the glass slide
- Acceptable Colour, Resolution, Focus
- Must include 'Human Readable' data from the original slide label and ability to see all tissues present on the original slide
- All of the above features adequately maintained throughout the workflow = 'digitised slide integrity'

Equivalence



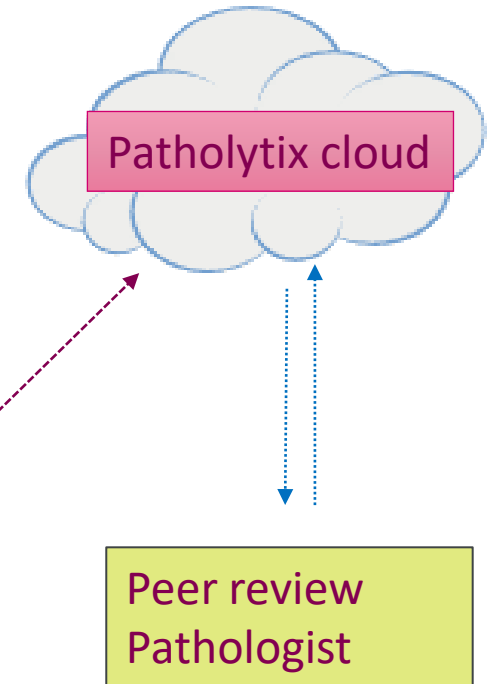
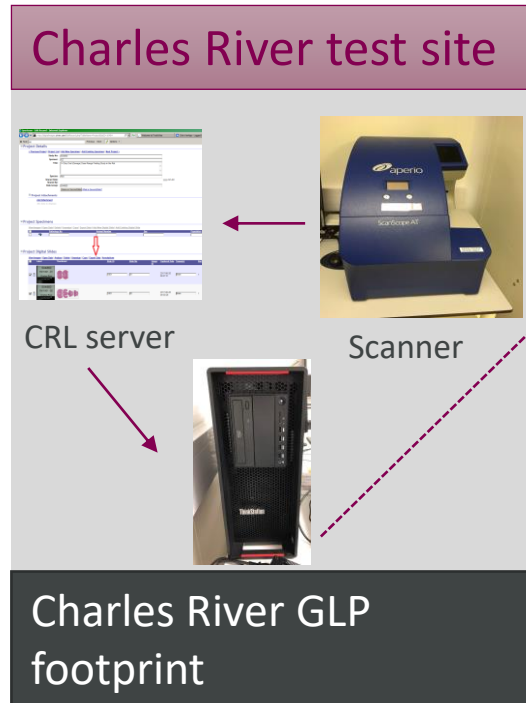
- Software and hardware that produces an 'equivalent' experience as a microscope
- Emphasis on functionality?
- How much functionality is equivalent?



Validation of the Digital Pathology Workflow

- Workflow uses Leica and Deciphex digital pathology platforms
- Study pathologist evaluates WSI from CRL server using Leica based platform
- Images encrypted at CRL by Deciphex platform and uploaded to Patholytix cloud
- Peer review pathologist downloads the images and reviews using the Deciphex platform

Study Pathologist
Primary evaluation



GLP Validation

- No specific guidance for GLP Validation – follow established process at each GLP footprint
 - *Quality assurance audit of vendor/s*
 - *Where the workflow is split between CRO/Sponsor: Quality assurance audit of each parties approach*
 - *Process map for all components of workflow*
 - *Define use case and user requirements*
 - *Validation plan*
 - *User acceptance testing*
 - *Validation report*
- Higher degree of risk for primary histopathology evaluation using WSI that contributes to raw data



Learning from the validation process

- Pathologists need to be able to explain the unique nuances of WSI to validation team members (IT, QA)
 - *These nuances often dictate the key risks and mitigation strategies*
- Close cooperation and trust required when WSI workflow split between CRO and Sponsor
- Provision for SOP driven image quality control checks as part of study conduct
- An experienced pathologist is the best judge of WSI faithful reproduction and equivalence – precedent set by a lack of validation protocols for light microscopes





charles river



DECIPHER

Thank you.



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