2020-07-29

MISO LIMS Training
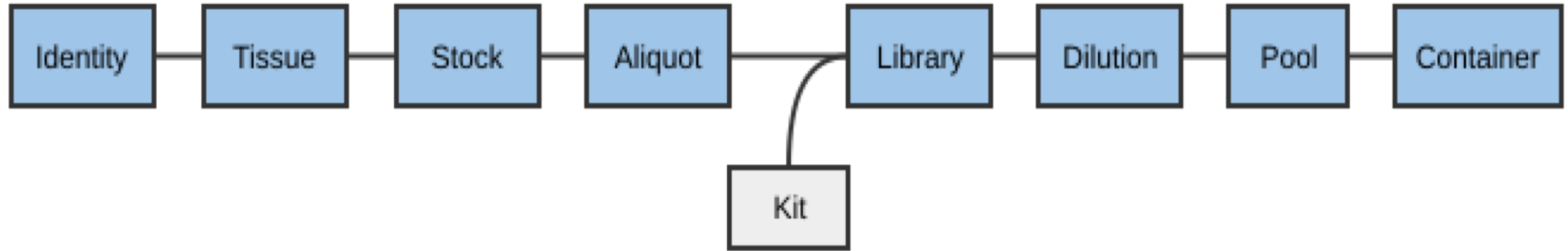
Samples

OICR
Ontario Institute
for Cancer Research

Outline

- Samples

- Sample Hierarchy

- Receiving samples

- Propagating samples

- Transfers

- Adding sample QCs

General MISO Flow

Samples

- Most collaborator-provided and tissue information is part of the sample information

- Samples are received as tissues, stocks, or aliquots
  - Each is connected with an identity
  - Identities are created automatically based on the external name

- Eventually, samples end up as aliquots for making libraries

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Sample Categories

Identity → Tissue → Tissue Processing → Stock → Aliquot → Library
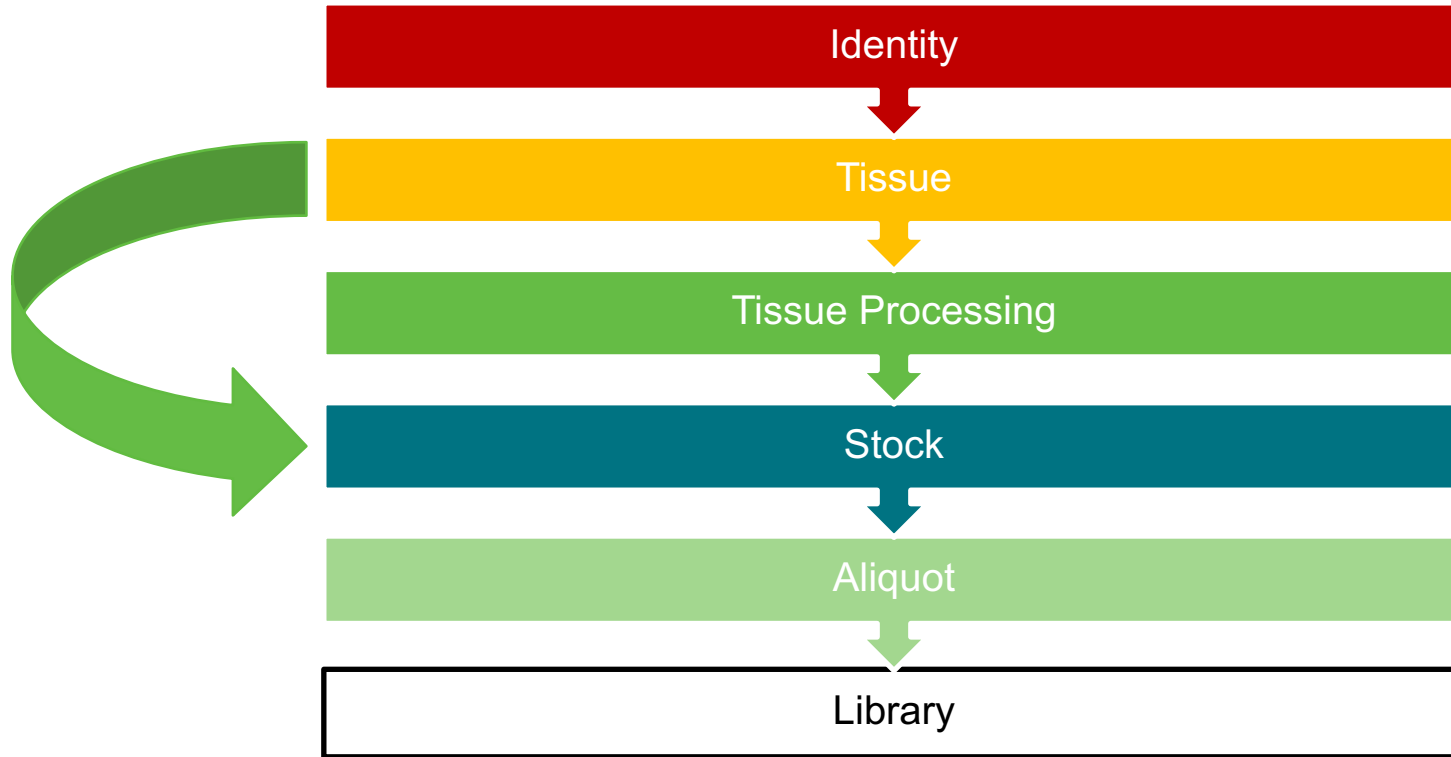
Identity

- Represents a donor (person)
- The external name is the name used by the external institute to keep track of which donor gave that particular sample.
- The alias is the name your lab uses to keep track of which samples come from that donor.
- e.g. external name = Morgan; alias = MORG_0001.
- Identity Search tool
 - Find existing Identities and list samples related to them

Tissue

- A piece of tissue taken from the donor
- Tissue types:
  - Reference Tissue
  - Primary Tumor Tissue
  - Metastatic Tumor Tissue
  - Xenograft Tissue
  - Cell Line

Tissue Processing

- Workflow steps as tissue samples get processed
- Optional to a sample hierarchy
- Example sample classes:
  - Slides
  - Tissue Pieces
    - Curls
    - LCM Tube
    - Macrodissection
  - Single Cell
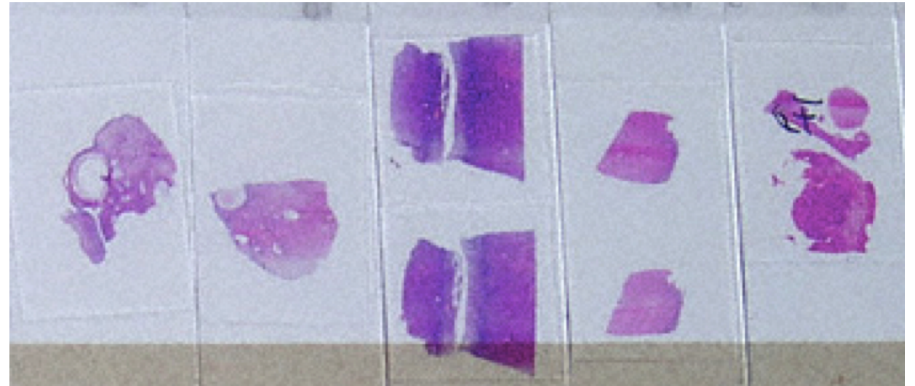
Stock

- Extracted material that is ready to be separated into one or many aliquots

- Example sample classes:
  - gDNA (stock)
  - gDNA_wga (stock)
  - whole RNA (stock)
  - cDNA (stock)
  - Single Cell DNA (stock)

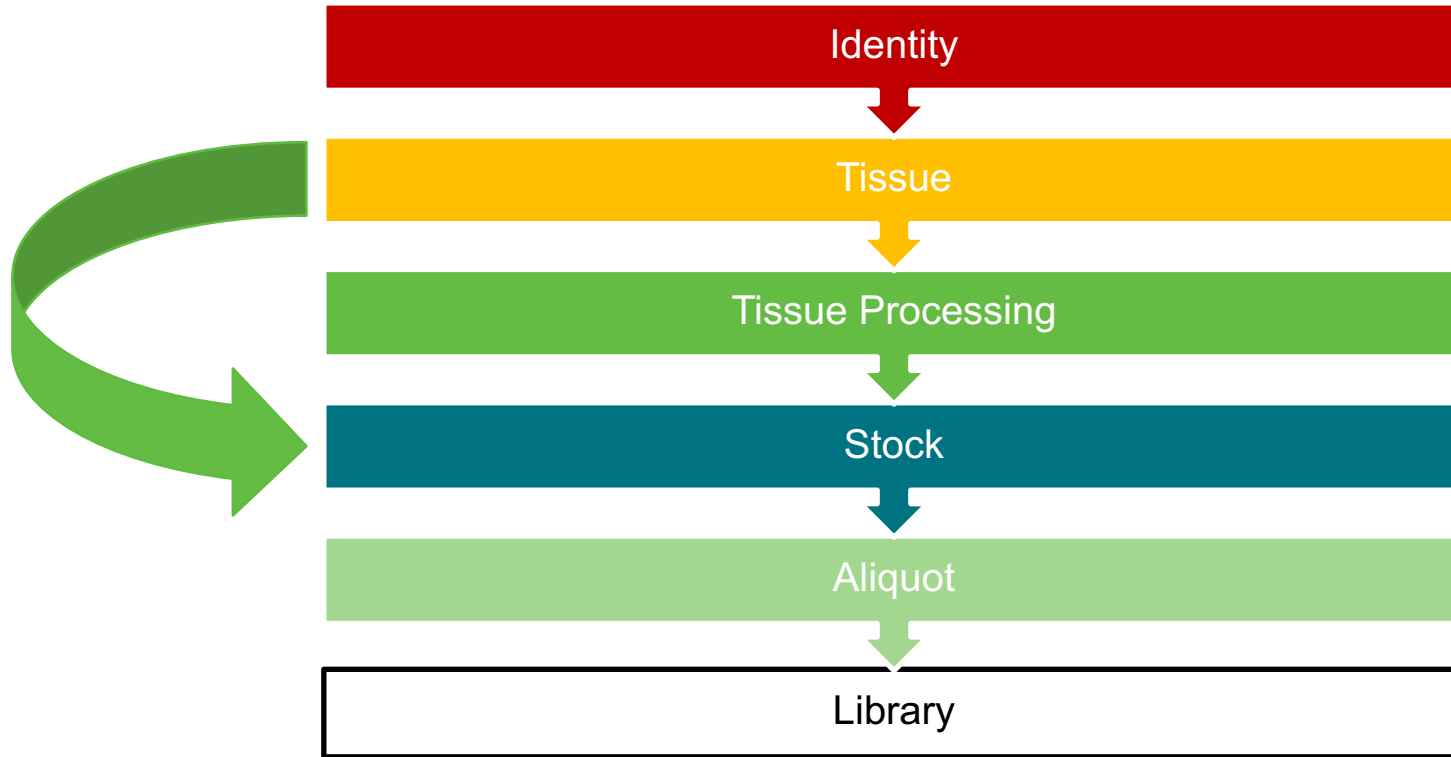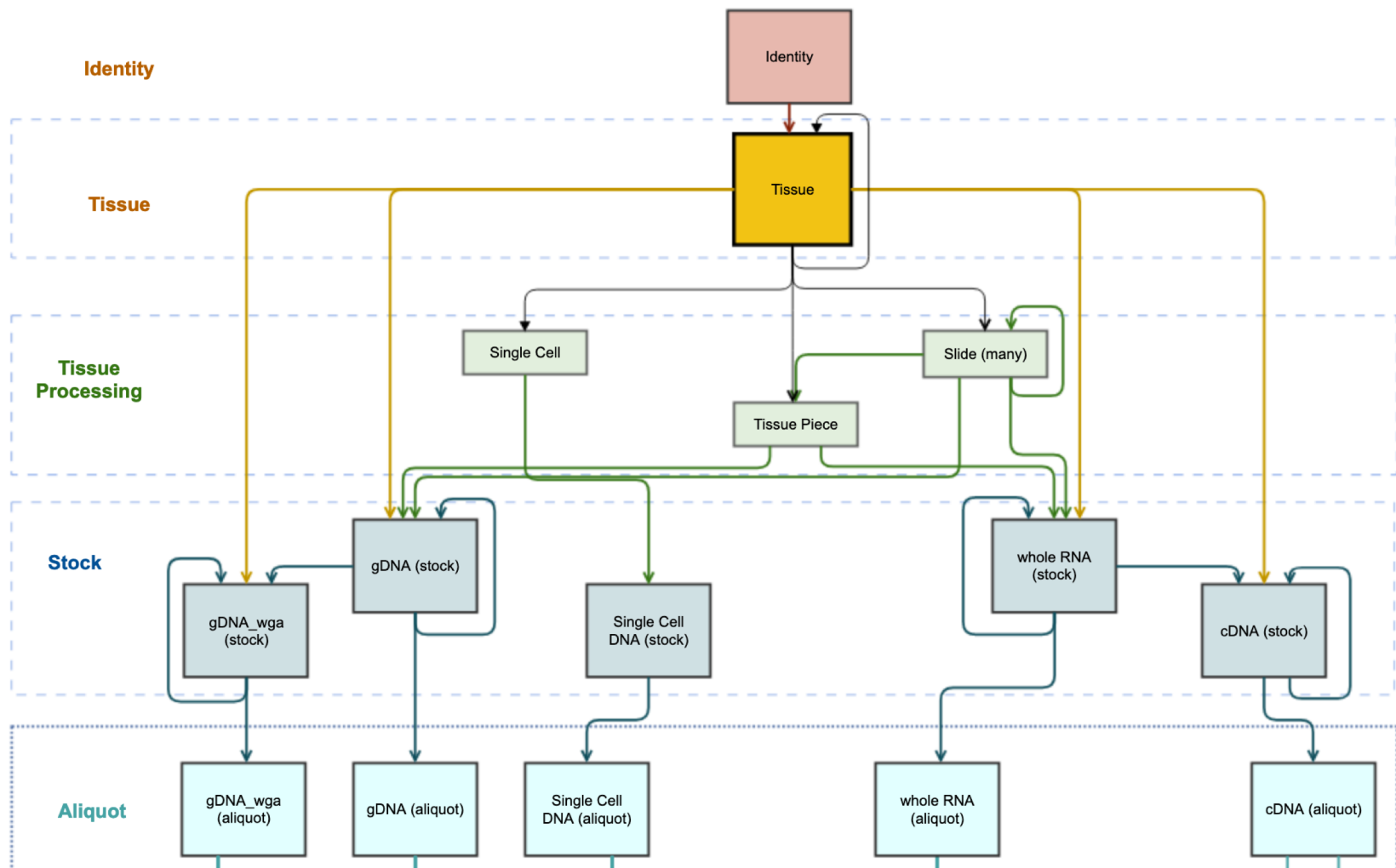Collaborate. Translate. Change lives.

Aliquot

- A portion of the extracted material to be made into a library or used for QC or other purposes

- Example sample classes:

  - gDNA (aliquot)

  - gDNA_wga (aliquot)

  - whole RNA (aliquot)

  - cDNA (aliquot)

  - Single Cell DNA (aliquot)

Sample Categories

Working with Samples

- Receipt – Samples were prepared elsewhere
  - No need to select existing samples to derive from
  - May still be related to existing identities and/or tissues
  - Ghost samples
- Propagation – Samples were created in-house
  - Must choose existing parents
  - E.g. propagating stock from tissue
- Editing – Single or bulk
- QC information may be attached to samples

Working with Samples

- Deleting samples
  - Creator or MISO administrators can delete
  - Cannot delete if there are child samples or libraries
- Dropdown options
  - Check Misc. and Institute Defaults menus
  - Ask your MISO administrator to add new items

Collaborate. Translate. Change lives.

Transfers

- Samples can be included in transfers
- Transfers represent a custody change from one lab or group to another
  - Receipt: from an external lab
  - Internal: within the organization
  - Distribution: to an external lab
- Specify
  - Who/where items came from
  - Who/where they were sent
  - Confirmation of receipt
  - Confirmation of QC upon receipt
- Full chain of custody can be tracked

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QCs

- Sample QC status indicates
  - Pass/Fail/Unknown
  - Reason
- Additional QC data can be added
  - Results may be pass/fail or numerical
  - May use instruments, kits, and/or controls

Sample Alias	Date	Type	Instrument	Kit	Kit Lot	Result	Units
DEMO_0002_Ab_A_nn_1-1_D_1	2020-07-28 ▼	Concentration (Fragment Analyzer) ▼	Fragment Analyzer ▼	▼		23.4	ng/ul
DEMO_0002_Ab_A_nn_1-1_D_1	2020-07-28 ▼	%DV200 (Tapestation) ▼	Tapestation ▼	▼		43.2	%

Exercise

Complete the following tutorial using Chrome or Firefox:

- Tutorial 6: Samples

https://miso-lims.github.io/walkthroughs/