

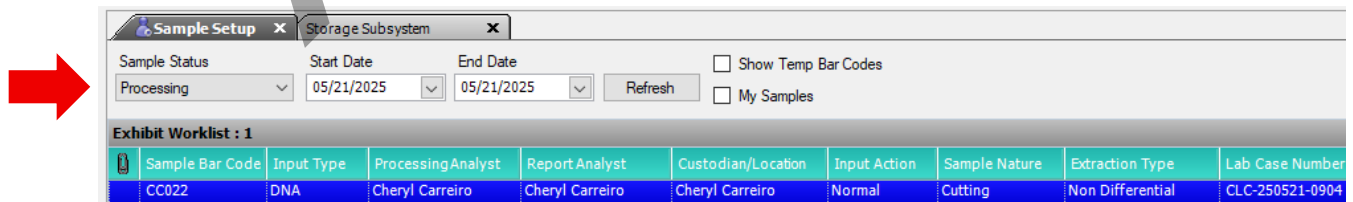
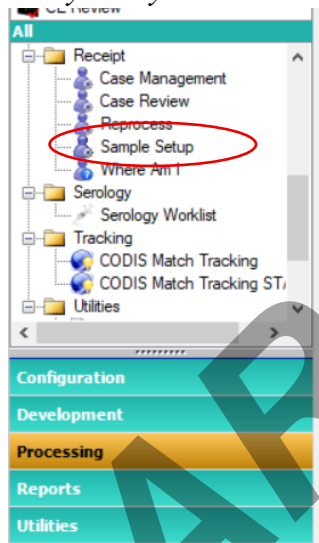
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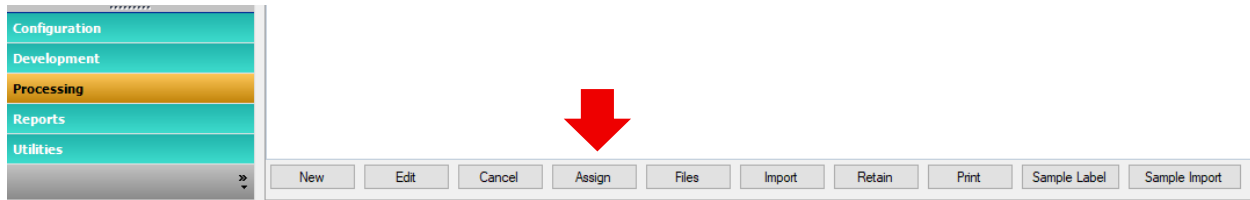
DNA Evidence Processing

I. Batch Setup – Non-Differentials

The Batch Setup module will be used to create an extraction batch and allocate samples/controls to the worksheet. Specific instructions for non-routine processing can be found in the below ‘Specialized Extraction’ section.

1. Upon batch assignment, assign the Justice-Trax STACS request to the processing examiner.
2. In STACS, assign the appropriate samples to the processing DNA examiner. This can be done in **Processing → Receipt → Sample Setup**. Under the **Sample Status** dropdown, select **Processing**. Select the appropriate samples and choose **Assign**. Until this is done the sample will be assigned to the FB analyst who imported the sample. *The Reporting Analyst may be selected at this time, if known.*



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3. Take custody of the sample tube(s) to be processed. In **Storage Subsystem (Utilities → Storage → Storage Subsystem)**, select the **Retrieve** tab, scan the item bar code(s) to be put into your custody. Select **Save**.



4. Create a lysis worksheet: Open **Processing → DNA Processing → Batch Setup**. Click **Create**.

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Sample Setup x Storage Subsystem x Batch Setup x

Batches Worklist : 4

Create Date	Bar Code	Batch Type	Evidence Classification	Custodian/Locatio	Created By	Required Bat
02/25/2025	E2L-250225-01	EZ2 Lysis	Question	In Lab	SevastiPapaknakis	
03/12/2025	BTE-250312-61	Bone and Tooth Extraction	Question	In Lab	Angela Przech	
03/13/2025	E2L-250313-33	EZ2 Lysis	Question	In Lab	Kristen Madel	
04/14/2025	E2L-250414-06	EZ2 Lysis	Question	In Lab	Cheryl Carreiro	

Create Content Comment Rework Refresh Auto Fill Well (DEV) 1 Auto Fill Well

Available Samples : 1 ☒ My Samples

Bar Code	Lab Case Number	Exhibit Number	Lot Number	Sam
CC022	CLC-250521-0904	A		Cut

Sample Allocation Batch Bar Code Sample/Control Bar Code Fill Order Vertical

	1	2	3	4	!
A					

5. Select the appropriate extraction under **Batch Type** (EZ2 Lysis), the corresponding **Evidence Classification** (Question), and the **Fill Order** (Horizontal).

Create Batch (CreateBatchForm)

Batch Type	Evidence Classification	Kit	Fill Order	Batch Bar Code
EZ2 Lysis	Question	Not Defined	Horizontal	

Create

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
A	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	DNA	BIS	Blank

6. Click **Create**. A unique barcode associated with the extraction will be generated and printed. Moving forward, this barcode may be used to transfer the samples as a whole set.
7. To begin sample allocation, the batch should automatically populate into the "Sample Allocation" window. If it does not, scan the extraction barcode into the blue-highlight or double-click the batch in the upper Batches Worklist window.

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Batches Worksheet : 5

Create Date	Bar Code	Batch Type	Evidence Classification	Custodian/Location	Created By	Required Batches
02/25/2025	E2L-250225-01	E22 Lysis	Question	In Lab	Sevasti Papakanakis	
05/21/2025	E2L-250521-01	E22 Lysis	Question	Cheryl Carreiro	Cheryl Carreiro	
03/12/2025	BTE-250312-61	Bone and Tooth Extraction	Question	In Lab	Angela Przech	
03/13/2025	E2L-250313-33	E22 Lysis	Question	In Lab	Kristen Madel	
04/14/2025	E2L-250414-06	E22 Lysis	Question	In Lab	Cheryl Carreiro	

Create Content Comment Rework Refresh Auto Fill Well (DEV) 1 Auto Fill Well

Available Samples : 3 ☒ My Samples

Bar Code	Lab Case Number	Exhibit Number	Lot Number	Sample Allocation
SP004	DSS-24-001499	001-002		Cut
SP0041	DSS-24-001499	001-002		Cut
SP0042	DSS-24-001499	001-002		Cut

Sample Allocation Batch Bar Code Sample/Control Bar Code Fill Order Vertical

	1	2	3	4	5	6
A						

- Select samples to be extracted from the available samples window on the left. Make sure to check the “My Samples” box to only show samples assigned to you. Click **Allocate** (at the bottom of the screen) to add selected samples to the extraction worksheet. You can also allocate samples by scanning the barcode on the sample tube.
- To add the BIS (positive controls) to the worksheet, select the designated BIS well and scan the barcode label on the EPI tube.
- Non-differential lysis batches are designated to have one reagent blank. If an additional blank is needed, right click on a well and convert from DNA to blank.
- When all samples and controls are added, click **Complete (bottom right)** in the **Batch Setup** window.
- By completing the batch, the **Blank** sample(s) will automatically be generated. In the pop-up window, click Save. The barcode will automatically print. Initials/date may be entered as a lot number, although not necessary. Select **Close**.

II. Extraction/Isolation – Non-Differentials

Extraction (steps #1-10) refers to sample lysis. Isolation (steps #11-22) encompasses instrument purification.

- Open **Processing → DNA Processing → Extraction**.
- Select/Scan the batch to be processed from the worklist and click **Select Scenario** to select the appropriate lysis scenario (**EZ1/EZ2 Lysis Unknown**).

STACS SOP-3 Non-Differential

Document ID: 50099

Revision: 1

Effective Date: 09/18/2025

Status: Published

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Select Scenario (ScenarioSelectorForm)

Available Scenarios : 4

Scenario	Model
EZ1/2 Hair Lysis	
EZ1/2 Lysis Knowns (non-whole blood)	
EZ1/2 Lysis Knowns (Whole Blood)	
EZ1/2 Lysis Unknowns (non-diff)	

3. Scan the consumable barcodes. The Consumable window will display the reagent volumes required for the lysis.
4. If the batch barcode field is aqua then it also needs to be scanned.

Consumables : 1										
Group Type	Group Name	Extra	Extra Number							
All		# Extra Reactions	1							
Optional	Fixed	Consumable Name 1	Format 1	Bar Code 1	Consumable Name 2	Format 2	Bar Code 2	Reagent Amount	Measurement	Kit
<input type="checkbox"/>	<input type="checkbox"/>	EZ1 Buffer G2	EF#####		Extraction Buffer & EDTA solution	FV#####		1920.00	ul	
<input type="checkbox"/>	<input type="checkbox"/>	EZ1 pro K	PR#####					80.00	ul	
<input type="checkbox"/>	<input type="checkbox"/>	EZ1 cRNA	RN#####					4.00	ul	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Prepared DTT	WW#####					80.00	ul	

5. Click **Start Process**.
6. Complete the tube check by scanning the tube labels.

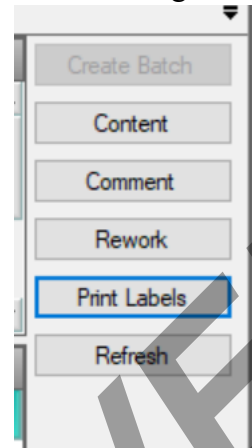
Tube Check - E2L-250521-02 (TubeCheckForm)

	1	2	3	4	5	6	7
A	CC022	BI000142	250086				

Performed By

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7. Samples can now undergo physical lysis. While incubating, elution tube barcode labels



can be printed from the **Print Labels** button.

Bar Code / Label Printing (BarcodeLabelPrintForm)

Batch Bar Code
E2L-250716-01

Print Content Print Transfer File

Batch Bar Code Printing
Copies: 1 Print

Sample Bar Code Printing
Copies: 0 Print

Sample Number Printing
Copies: 0 Print

Substrate Remains Printing
Copies: 1 Print

Close

8. An additional batch barcode label can be printed from this window as well if needed.
9. When the lysis is complete, highlight your batch and click **Complete Process** and record the results using the Complete Batch Activity screen.
- **Process Successful:** the batch advances to the next processing step.

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- **Process Aborted:** the batch remains on the Extraction Batches worklist. A **Batch Comment** is required with this option.
- **Process Failed:** the batch is abandoned and all samples return to **Batch Setup**. A **Batch Comment** is required with this option.

Complete Batch Activity (CompleteBatchActivityForm)

☒ Process Successful
 ☐ Process Aborted
 ☐ Process Failed

Batches : 1

Bar Code	Process	Status	New Status	Batch C
E2L-250521-02	Success	Extraction Batch Create	Complete	

Samples : 1

Sample	Kit	Lab Case Number	Exhibit Number	Final Volume (uL)
Batch Bar Code : E2L-250521-02 (3 items)				
CC022	Not Defined	CLC-250521-0904	A	0.0
BI000142	Not Defined			0.0
250086	Not Defined			0.0

- Click **Save** at the bottom right.
- Create an Isolation (purification) worksheet: Open **Processing** → **DNA Processing** → **Isolation**.
- Click **Create Batch** at top right corner of screen.
- Click the **Create** button under the New Batches worklist.

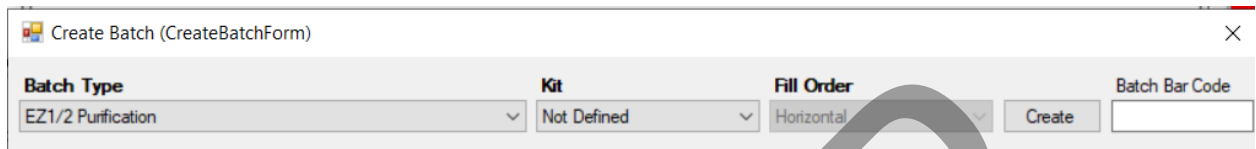
Isolation Batch Create (SampleAllocationExtendedForm)

New Batches : 3

Bar Code	Batch Type	Kit	Custodial
EZH-250312-16	EZ1 Trace - Hair	Not Defined	In Lab
EZS-250312-17	EZ1 Trace - Sperm	Not Defined	In Lab
EZS-250312-18	EZ1 Trace - Sperm	Not Defined	In Lab

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14. Select a **Batch Type (EZ1/EZ2 Purification)** and click **Create** to create the unique barcode associated with the **Isolation**.



Create Batch (CreateBatchForm)

Batch Type	Kit	Fill Order		Batch Bar Code
EZ1/2 Purification	Not Defined	Horizontal	Create	

15. Scan the newly created barcode into the **Destination Batch** section.
16. Scan the extraction (lysis) barcode into the **Source Batch** section. Click **Allocate** to add the lysed samples to the isolation worksheet. If sample(s) need to be moved, this can be done after the allocation is saved, followed by dragging the sample(s) as needed.

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Document ID: 50099

Revision: 1

Effective Date: 09/18/2025

Status: Published

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New Batches : 6

Bar Code	Batch Type	Kit	Custodian
EZ2-250521-03	EZ1/2 Purification	Not Defined	Cheryl Ca
EZ2-250521-04	EZ1/2 Purification	Not Defined	Cheryl Ca
EZ2-250521-05	EZ1/2 Purification	Not Defined	Cheryl Ca
EZH-250312-16	EZ1 Trace - Hair	Not Defined	In Lab
EZS-250312-17	EZ1 Trace - Sperm	Not Defined	In Lab
EZS-250312-18	EZ1 Trace - Sperm	Not Defined	In Lab

Samples For Batch 'E2L-250521-02' : 3 ☐ Filter Blanks

Action	Well	Bar Code	Lab Case Number	Exhibit Number	Lot
Not Defined	A01	CC022	CLC-250521-0904	A	
Not Defined	A02	BI000142			EP1
Not Defined	A03	250086			123

Source Batch
E2L-250521-02

Available Batches : 1

Bar Code	Batch Type	Kit	Custodian/Location
E2L-250521-02	EZ2 Lysis	Not Defined	Cheryl Carreiro

17. Once finished, click **Complete** (at the top of the screen next to Destination Batch) and close screen.
18. In the Batches Worklist window, scan batch and click **Select Scenario** (EZ1/EZ2 Purification).

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Scenario	Model	Default Directory	Comments
EZ1/2 Large Volume Protocol			
EZ1/2 Normalization Protocol			

19. Scan the batch barcode and all necessary consumables and instrumentation.
20. Click **Start Process** at the bottom right of screen.
21. Complete the tube check by scanning the lysis tube barcode labels.
22. Once the isolation is complete, click **Complete Process** and select the appropriate option.
Adjust the elution volumes if needed.
 - **Process Successful:** the batch advances to the next processing step.
 - **Process Aborted:** the batch remains on the Isolation worklist. A **Batch Comment** is required with this option.
 - **Process Failed:** the batch is assigned a **Status** of 'Abandoned' and its samples are returned to **Isolation Batch Create** to be allocated to a new batch. A **Batch Comment** is required with this option. This option should be used if the instrument crashes or something occurs that affects all samples.
 - Select **Save**
23. If an elution volume discrepancy results in a manual volume check, this will be captured in the **Complete Process** window. Enter each sample's elution volume as measured off the instrument and select **Process Successful**.

Proceed to the **Batch Management** module to document subsequent adjustments.

The batch that was completed can be found under '**Quantitation Batch Create**'

- If an elution volume is significantly increased (> 40µL), select the sample(s) and control(s) and proceed to the **Concentrate** tab.
- If an elution volume is significantly reduced (0-20µL), select the sample(s) and control(s) and click on the **Rework** tab. Select **Isolation Batch Create** in the **Rework Entry Point** dropdown and document the **Rework Reason**. Click **Save**. The sample(s)/control(s) can now be added to a new isolation batch.

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- If an eluate needs a volume adjustment, this can be done through the **Dilute Tab**, or the sample(s) can be marked for the appropriate volume and a note about the addition of water to that sample can be made.

Source Batch Bar Code	Destination Batch Bar Code	Sample/Control Bar Code
EZ2-250521-03		

Add	Dilute	Concentrate	Discontinue	Combine	Purify	Remove	Rework	Transfer
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- Continue to Quantitation Steps.

III. Specialized Extraction

- a. **Hair** - Except for the following, hair samples are to be processed according to the above non-differential protocol.
 - i. Batch Setup – select **EZ1/2 Hair Lysis**
 - ii. Isolation batch create - select the **EZ2 Trace-Hair Batch**.
 - iii. Isolation batch scenario – select **EZ1/2 Trace Hair**.
- b. **Bone and Teeth (see separate instructions created)**
- c. **Fired Cartridge Casings**
 - i. Import the rinse-and-swab samples from JusticeTrax to STACS, using the STACS DNA Only request.
 - ii. Proceed with the 'Batch Setup' steps described above. Select '**Fired Cartridge Casings**' as the batch type option.
 - iii. Continue with the non-differential steps in the 'Extraction/Isolation' section.
 - iv. The post-EZ2 purification required for FCCs will be completed in the Batch Management module.
 - v. In Batch Management, under the Processing Step drop down, select '**Quantitation Batch Create**'.
 - vi. Select/scan the Source Batch. Click on the **Purify** tab and scan the required consumables.
 - vii. Once purification is complete, the samples can proceed with the remaining steps as normal.

*Approved by Director: Dr. Guy Vallaro***IV. Other Guidance:**

- a. Another way to find a sample would be to go to **Processing → Case Management**.
- b. Select your name and check **Active**.

Lab Case Number	Supplement	Status	Priority	Sample Create Date	Case Due Date	Agencies	Offenses
CLC-25-000123	0	Processing	Low	04/14/2025		Canton Police Department	Armed Robbery
CLC-250314-1090	0	Processing	Low	03/14/2025		Ansonia Police Department	Armed Robbery
CLC-250521-0904	0	Processing	Low	05/21/2025		Ansonia Police Department	Armed Robbery
CLC-250521-1513	0	Processing	Low	05/21/2025		Bloomfield Police Department	Sexual Assault

Select the case number and double click. This will open a window to the samples. Make sure to select the samples and click Start Processing at the bottom of the screen. It will flag if you already did this step, but this can be done if you want to ensure everything was started in the process.

Sample Status	Input Type	Container	Exhibit Number	Exhibit Description	Sample Bar Code	Sample Nature	Extraction Type	Evidence Classification
Processing	DNA		001-01	Differential Swab of Underwear	CC023	Cutting	Differential	Question

Sample Actions

New Edit Assign Cancel

Itemize **Start Processing** Reprocess Results

Comment Files Sample Label Refresh