

HUMAN LABORATORY TESTING

Specimen Rejection and Recollection Guide

A practical decision aid for identifying compromised blood specimens before testing and protecting the clinical integrity of reported results.

Why specimen integrity matters

A compromised specimen can create a result that reflects collection or handling error rather than the patient's condition. When interference exceeds the validated limit for the ordered test, reporting may support an incorrect or unsafe clinical decision.

The rapid decision

REJECT / RECOLLECT	Identity cannot be assured; tube and chain-of-custody (CoC) information do not match; required volume or blood-to-additive ratio is not met; an anticoagulated specimen is clotted; or validated time/temperature limits are exceeded.
HOLD / ASSESS	Hemolysis, icterus, or lipemia is present and the ordered assay's interference limit or instrument index must be checked. Escalate irreplaceable, difficult-to-recollect, or clinically urgent specimens.
ACCEPT / PROCEED	At least two patient identifiers match across the specimen label, order, and CoC; specimen type and container are correct; volume is sufficient; integrity and transport requirements are met.

One rule does not fit every test

Use the current test requirements, manufacturer interference limits, analyzer flags, and the approved HumanBiomics SOP. Visible appearance alone is not a universal cutoff.

Protect the patient and the record

Document the reason, affected tests, disposition, notifications, and recollection request. Never relabel or infer patient identity after collection.

SPECIMEN ASSESSMENT

What to reject, hold, or review

Apply the strictest applicable requirement from the HumanBiomics test directory, analyzer/manufacture documentation, and the approved laboratory SOP.

Condition	What you may see	Why it matters	Default action
Hemolysis	Serum/plasma from faint pink to bright red.	Red-cell contents and optical interference can bias results. Potassium is especially vulnerable; LDH, AST, iron, phosphorus, magnesium, bilirubin, troponin, and other assays may be affected in method-dependent ways.	Hold/assess. Reject and recollect when the test-specific hemolysis index or validated limit is exceeded, or policy identifies the specimen as unacceptable. Gross or moderate hemolysis may be rejected.
Icterus	Dark to bright yellow serum/plasma from elevated bilirubin.	Color and spectral interference may affect photometric or other methods; impact varies by assay.	Hold/assess. Check the assay-specific icterus index and release rules. Request recollection only when permitted and likely to improve diagnostic value.
Lipemia / turbidity	Cloudy, turbid, or milky serum/plasma; may reflect lipids or contamination.	Light scattering, volume displacement, and sample heterogeneity can bias some measurements.	Hold/assess. Check the lipemia index, ordered assay, and approved remediation. Reject/recollect if interference remains outside validated limits.
Unlabeled / mislabeled	Missing identifiers; mismatch among specimen label, order, or CoC; incorrect patient, date/time, or source.	Patient identity cannot be assured. This is an immediate safety risk.	Reject. Follow the exception/escalation process only for irreplaceable specimens. Do not relabel from memory.
Insufficient volume / short draw	Below minimum volume or designated fill line; quantity not sufficient (QNS).	Too little material may prevent testing. In additive tubes, an incorrect blood-to-additive ratio can invalidate results, especially coagulation testing.	Reject affected testing. Recollect with the correct tube and fill. If volume is merely limited, prioritize tests only under approved policy.
Clotted anticoagulant tube	Visible clot, microclots, fibrin strands, or analyzer clot flag.	Cells and clotting factors are consumed or trapped; counts and coagulation results may be unreliable.	Reject. Recollect and mix the new tube using the required gentle inversions.
Wrong container / additive	Tube type, preservative, specimen source, or aliquot container does not match the order.	Additive contamination or absent preservative can produce systematic error or instability.	Reject. Recollect in the required container unless a validated alternate specimen is listed.
Time / temperature excursion	Late arrival or processing; leaked, frozen, overheated, or improperly stored specimen.	Analytes and cells can degrade or shift. Unseparated cells continue metabolism and exchange with serum/plasma.	Reject or escalate when the test-specific stability or transport limit is exceeded. Document the excursion.

Important: a patient-related condition such as true hyperbilirubinemia or hyperlipidemia may remain present after recollection. Request recollection only when it can resolve a collection/handling problem or when required by validated assay policy.

ACTION WORKFLOW

From receipt to resolution

1	VERIFY IDENTITY	Match at least two patient identifiers - including full name and date of birth where required - across the tube label, order, and CoC. Confirm source, collection date/time, collector information, and special requirements.
2	INSPECT	Confirm container, fill volume, leakage, clots, appearance, separation status, and any instrument-generated HIL index or flags.
3	CHECK REQUIREMENTS	Compare the specimen with the ordered test's minimum volume, stability, temperature, centrifugation, and interference limits.
4	DECIDE + ESCALATE	Accept, hold for technical review, or reject. Escalate urgent, critical, difficult-to-recollect, or irreplaceable specimens to the designated laboratory authority.
5	DOCUMENT + NOTIFY	Record the exact reason, tests affected, disposition, person notified, notification time, and recollection status. Use standardized rejection reason codes.

Handling controls that commonly prevent rejection

Collection Use the correct tube and method; allow skin antiseptic to dry; fill to the required level; avoid traumatic draw technique; and mix additive tubes using the specified gentle inversions.	Processing Separate serum/plasma from cells within the test-specific timeframe. For serum, allow the required clotting time before centrifugation. Do not assume a universal 1-2 hour rule.	Transport Maintain required temperature and light protection. Track collection and receipt times, and investigate excursions before result release.
---	---	---

Selected references

1. Quest Diagnostics. *General Specimen Collection: Common Causes for Unacceptable Blood Specimens and Inaccurate Test Results*. <https://www.questdiagnostics.com/healthcare-professionals/test-directory/specimen-handling/specimen-collection>
2. Quest Diagnostics. *Laboratory General: Specimen Labeling and Test-Specific Requirements*. <https://www.questdiagnostics.com/links/test/am/specimen-handling/laboratory-general>
3. U.S. Centers for Disease Control and Prevention. *Reference Tool to Determine Hemolysis Status*. Updated April 21, 2024. <https://www.cdc.gov/vector-borne-diseases/php/laboratories/quick-reference-tool-for-hemolysis-status.html>
4. Sacks DB, et al. *Guidelines and Recommendations for Laboratory Analysis in the Diagnosis and Management of Diabetes Mellitus*. *Diabetes Care*. 2023;46(10):e151-e199. <https://diabetesjournals.org/care/article/46/10/e151/153425/>

FOR PROFESSIONAL USE: This guide supports, but does not replace, the HumanBiomics quality manual, validated assay instructions, manufacturer labeling, regulatory requirements, or medical/technical director judgment. Establish numerical HIL cutoffs and exception rules within the approved laboratory SOP before operational use.