



Reflex Test Protocols

| Test Ordered | Initial Test Performed | Criteria for Reflex | Tests Ordered and Billed by Reflex, as applicable |
|---|---|---|---|
| Blood Bank | | | |
| Antibody Titer | N/A | No Type and Screen Ordered | Type and Screen; Antibody Identification and titer if Screen is positive. |
| Prepare RBCs for Transfusion (aka Crossmatch) | N/A | No Antibody Screen ordered | Antibody Screen |
| Direct Antiglobulin Test (DAT) | Polyspecific DAT IgG DAT | Positive polyspecific DAT Positive IgG DAT | IgG DAT, C3 DAT Elution |
| Fetal Cell Screen | Fetal Cell Screen | Positive | Fetal Hemoglobin |
| Rh Type | Rh Type | Rh-negative mother with Rh - positive or Rh-unknown baby | Type and Screen and/or Rh Immunoglobulin |
| Type and Screen | ABO, Rh, Antibody Screen | Positive antibody screen No historical ABO type | Antibody identification ABO Group (retype) |
| Transfusion Reaction Investigation (red cell components only) | N/A | Patient temperature increase $\geq 3^{\circ}\text{C}$. | Culture and Gram Stain of blood unit |
| Chemistry/Immunoassay | | | |
| Celiac Disease Reflex Panel | IgA | IgA 10 mg/dL or greater IgA less than 10 mg/dL | Tissue Transglutaminase IgA Ab Tissue Transglutaminase IgG Ab and Deamidated Gliadin Peptide IgG Ab |
| Lactate Arterial Sepsis | Lactate, Arterial | Result of ≥ 2.0 mmol/L | Lactate, Arterial to be drawn 2 hours post treatment/ monitoring. |
| Lactate Venous Sepsis | Lactate, Venous | Result of ≥ 2.0 mmol/L | Lactate, Venous to be drawn 2 hours post treatment/ monitoring. |
| TSH with Reflex to Free T4 | TSH | Result is abnormal | Free T4 |
| Flow Cytometry | | | |
| Anti-CD20 Therapy Monitor | CD20 Panel and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |

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| CD4 Helper T Cells | CD4 Panel and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |
| Lymphocyte Enumeration of TBNK | TBNK Panel and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |
| Pre-CAR T-Cells | Pre-CAR T-Cell Panel and CBC w/ Diff (Manual if Auto Fails) | If CBC values are flagged for manual review | Manual differential |
| T Cell Panel | T Cell Panel and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |
| T and B Cell Panel | T and B Cell Panel and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |
| Transplant CD3 | Transplant CD3 and Complete Blood Count (CBC) with differential (DIFF). | Requires the Absolute Lymphocyte Count from a CBC and differential. | CBC with Diff is automatically ordered and performed. Manual differential is ordered and performed when autodiff fails. |

Hematology and Coagulation

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| APC Resistance w/Reflex to FVL Mutation | APC Resistance | Less than 1.8 | Factor V Leiden Mutation |
| Body Fluid Count and Differential | Body Fluid Count | Requires nucleated cell count greater than zero. | Body fluid count is automatically performed. If the nucleated cell count is zero, the differential will be cancelled and credited. |
| CBC with Manual Diff if Auto Fails | CBC with Manual Diff if Auto Fails | Autodiff fails | CBC, no autodiff |
| Heparin Induced Antibody (HIT) Reflex | HIT | Positive | Serotonin Release Assay |
| Manual Differential | Complete Blood Count (CBC) | Requires white blood cell (WBC) count $0.5 \times 10^9/L$ or greater. | Differential is cancelled and credited when WBC under $0.5 \times 10^9/L$. The caregiver/provider may contact the lab to request that the differential be performed if |
| Physician Directed Path Review | Pathologist Review and Complete Blood Count (CBC) | Pathologist required clinical context for correlation. | CBC is automatically ordered and performed. |
| Russell Viper Venom Time Test (RVVT) | RVVT | Abnormal RVV Test (screen) or ratio | RVVTCNF |

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| Immunology | | | |
| CMV IgM Reflexive (Prenatal Only) | CMV IgM | Positive | CMV IgG CMV IgG Avidity |
| Hepatitis B Surface Antigen | Hepatitis B Surface Antigen | Reactive, females 0 - 45 years. (Patients with gender mismatch will default to legal sex to determine confirmation reflex.) | Confirmation by neutralization |
| RPR (Rapid Plasma Reagin) | Treponema pallidum Ab | Treponema pallidum Ab result is Reactive | Rapid Plasma Reagin (RPR). If RPR is reactive, RPR titer |
| Treponema pallidum Ab with reflex | Treponema pallidum Ab | Treponema pallidum Ab result is Equivocal or Reactive | Rapid Plasma Reagin (RPR). If RPR is reactive, RPR titer |
| Microbiology | | | |
| AFB Culture | AFB Culture | Positive culture | AFB Smear; Identification, AFB Probe; Identification, aerobic; Identification, anaerobe; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Sensitivity (per drug); Concentration; Confirmatory stains; Tissue homogenization |
| Bacterial Culture, Routine (on source other than blood, urine, or stool) | Routine Bacterial Culture | Positive culture | Identification, aerobic; Identification, anaerobe; Identification, enzyme detection; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Sensitivity; Gram Stain; Anaerobic culture; Tissue homogenization |
| Blood Culture | Blood Culture | Positive culture | Identification, aerobic; Identification, anaerobe; Identification, enzyme detection; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Sensitivity; Culture typing; per antiserum |
| Cdifficile Toxin PCR | Cdifficile Toxin PCR | Detected PCR Result (Inpatient) | Toxin EIA (CDIF) |

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| Fungus Culture (source other than skin, hair or nails) | Fungus Culture (source other than skin, hair or nails) | Positive culture | Identification, aerobe; Identification, anaerobe; Identification, mold; Identification, Mycobacteria/ AFB; Identification, nucleic acid probe Identification, yeast; Sensitivity, yeast; Tissue homogenization |
| Fungus Culture, Skin/Hair/ Nails | Fungus Culture, Skin/Hair/ Nails | Positive culture | Identification, aerobe; Identification, anaerobe; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Tissue homogenization |
| GI PCR PANEL PLUS | Aeromonas Culture GI PCR PANEL | None Positive Salmonella Positive Shigella/EIEC Positive for Vibrio or Vibrio Cholerae | None Salmonella Culture Shigella Culture State Health Confirmation |
| Hepatitis C Virus Genotype | Review chart for recent Hepatitis C Virus quant PCR | If recent Hepatitis C Virus quant PCR is unavailable | Hepatitis C Virus Quant PCR; Hepatitis C Genotype will be cancelled if Hepatitis C Virus Quant PCR is <2000 IU/mL |
| HIV 1/2 Antibody-Antigen Screen | HIV 1/2 Antibody-Antigen Screen | Positive screen | Confirmation & HIV-1/2 Differentiation |
| Ova & Parasites Complete | If clinical criteria not met, Giardia Antigen and Cryptosporidium Antigen will be substituted. | Clinical criteria for Complete O & P are not met (refer to Test Catalog). | Giardia antigen; Cryptosporidium antigen; Cryptosporidium Stain; Trichrome Stain; Concentration |
| SARS-CoV-2 PCR | PCR | Detected (positive) | Variant sequencing by State Health per Public Health Order. Individual results are NOT available. |
| Urine Culture | Urine Culture | Positive culture | Identification, urine organism; Identification, aerobe; Identification, anaerobe; Identification, enzyme detection; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Sensitivity |

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| Sendouts | | | |
| ACHR Binding/Blocking w/Reflex Modulate | ACHR Binding, ACHR Blocking | Acetylcholine Receptor Binding AB greater than 0.4 nmol/L or Acetylcholine Receptor Blocking AB greater than 26% | Acetylcholine Receptor Modulating AB |
| ANA w/ reflex to titer & ANA Group | ANA, Anti-Centromere, Anti-SM/RNP, Anti-SSA/SSB | Positive ANA | Titer and Pattern |
| ANCA with reflex to titer | c-ANCA p-ANCA | Positive Positive | c-ANCA titer p-ANCA titer |
| ANCA Positive with reflex to titer & MPOAB or PR3AB | c-ANCA p-ANCA | Positive Positive | Titer Titer and PR3 Ab or MPO Ab |
| Anti-dsDNA by Crithidia w/Reflex titer | Anti-dsDNA/Crithidia | Positive | Titer |
| Anti-Mitochondrial Antibody | Antimitochondrial Ab | Positive | AMA titer |
| Arsenic Urine or Heavy Metals Urine | Arsenic Urine | 35-2000 ug/L | Arsenic Speciation |
| Autoimmune Encephalopathy Antibody Panel - CSF or Serum | Immunofluorescence (IFA) | Pattern Suggestive of: CRMP-5-IgG | CRMP-5-IgG Western Blot and (serum only) Ach receptor (muscle) binding antibody |
| | Immunofluorescence (IFA) | Amphipysin antibody, AGNA-1, ANNA-1, ANNA-2, PCA-1, PCA-Tr | Immunoblot specific to the antibody. |
| | Immunofluorescence (IFA) | IGLON5 | IgLON5 cell-binding assay (CBA) |
| | IFA (AMPA only) and Cell-binding assay (CBA) | AMPA, and AMPA CBA is positive, or (serum only) CASPR2 CBA is positive | IFA titer and (serum only) CRMP-5-IgG Western Blot and Ach receptor (muscle) binding antibody. IFA titer |
| | Immunofluorescence (IFA) | GABA-B, and GABA-B antibody is positive | IFA titer |
| | IFA and Cell-binding assay (CBA) | NMDA, and NMDA CBA is positive | IFA titer |
| | Immunofluorescence (IFA) | DPPX, GFAP, mGluR1 | CBA and titer |
| | Immunofluorescence (IFA) | NIF | Alpha internexin CBA, NIF heavy chain CBA, NIF light chain CBA, and NIF titer |
| Cryoglobulins w/Reflex IFE and Ig Quants | Cryoglobulin Screen | Positive | IFE and Cryoprecipitin Quants |
| Drug panel 9 S/P w/Reflex Confirmations | DOA 9 S/P Screen | Positive | Confirmation for positive drug(s) |
| F-Actin AB IGG w/Reflex to Smooth Muscle AB IGG Titer | F-Actin AB IGG | Positive | Smooth Muscle AB IGG Titer |
| HTLV I/II EIA w/Reflex to WB | HTLV I/II Screen | Positive Screen | HTLV I/II Confirmation |
| Lyme Screen Ab w/Reflex to Western Blot | Lyme Screen | Positive screen | Lyme IgG WB and Lyme IgM WB |

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| Meconium Drug Screen | Screen for nine drugs | Positive | Confirmation for positive drugs |
| NMDAR CSF IgG w/Reflex | NMDAR CSF IgG | Positive screen | NMDAR CSF IgG Titer |
| NMDAR IgG w/Reflex | NMDAR IgG | Positive screen | NMDAR IgG Titer |
| Q-Fever IgG/IgM w/ Reflex Titer | Q-Fever Phase I IgG Q-Fever Phase II IgG Q-Fever Phase I IgM Q-Fever Phase II IgM | Positive Positive Positive Positive | Q-Fever I IgG Titer Q-Fever II IgG Titer Q-Fever I IgM Titer Q-Fever II IgM Titer |
| Restricted Pain Management Urine Drug Screen w/Reflex Confirmations | CUTox Drug Screen | Positive | Quantitation/Confirmation of positives |
| Striated Muscle AB w/ Reflex | Striated Muscle AB | Positive screen | Striated Muscle Titer |
| VDRL CSF | VDRL CSF | Positive screen | VDRL Titer |

Special Chemistry

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| Hemoglobin Electrophoresis | Hemoglobin Electrophoresis | CBC not already performed within 7 days of Hgb Elect order. Patient has no previous testing at UCH Clinical Laboratory. | CBC IEF |
| SPEP (Serum Protein Electrophoresis) with Reflex IFE | Protein Total, Serum/Plasma and SPEP | Monoclonal protein is suspected based on the SPEP result or a suggestive clinical scenario. | Immunofixation Electrophoresis, Urine (IFE U); Pathology Interpretation |
| UPEP w/Reflex IFE, Timed Urine (LAB438) | Protein timed urine, protein electrophoresis | Monoclonal protein is suspected based on the UPEP result or the patient has had no previous UPEP at UCH Clinical Laboratory. | Immunofixation Electrophoresis, Urine (IFE U); Pathology Interpretation |
| UPEP w/Reflex IFE, Random Urine (LAB837) | Protein urine, protein electrophoresis | Monoclonal protein is suspected based on the UPEP result or the patient has had no previous UPEP at UCH Clinical Laboratory. | Immunofixation Electrophoresis, Urine (IFE U); Pathology Interpretation |

Toxicology

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| Drug Screen Panel as selected | Drug Screen Panel as selected | Positive for Barbiturates, Cocaine, Ethanol, Opiates or Phencyclidine. | Confirmation testing (as applicable to panel ordered). |
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| Urinalysis | | | |
| Eosinophil Smear, Urine | Eosinophil Smear, Urine and Urine WBC quantification | Requires Urine WBC quantification >5 WBC/hpf to perform Eosinophil Smear, Urine. | Urine WBC quantification is automatically performed. If the urine WBC result is within normal limits, the Eosinophil Smear, Urine will be cancelled and credited. |
| Urinalysis, Reflex | Urinalysis Chemical | Any appearance other than "Clear", and/or Positive Protein, Blood, Nitrite, and/or Leukocyte esterase | Microscopic Examination |