

Reflex Test Protocols

Test Ordered	Initial Test Performed	Criteria for Reflex	Tests Ordered 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			
Albumin Random Urine	Urine Albumin and Urine Creatinine	Requires Urine Creatinine result to calculate Urine Albumin/Creatinine Ratio	Urine Creatinine is automatically ordered and performed.
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.
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.
CD3 Allo (HPC Product CD3)	CD3 Allo Panel and CBC w/ Diff (Manual if Auto Fails)	If CBC values are flagged for manual review	Manual differential

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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

APC Resistance w/Reflex to FVL Mutation	APC Resistance	Less than 1.8	Factor V Leiden Mutation
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
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

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

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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
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)
Fungus Culture (source other other than skin, hair or nails)	Fungus Culture (source other other than skin, hair or nails)	Positive culture	Identification, aerobic; 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, aerobic; 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

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HIV Genotyping Plus	Review chart for recent HIV-1 Quantitative PCR	If recent HIV-1 Quantitative PCR is unavailable	HIV PCR; HIV Genotyping Plus will be cancelled if HIV-1 Quantitative PCR is <2000 copies/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
Routine Bacterial Culture (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
Urine Culture	Urine Culture	Positive culture	Identification, urine organism; Identification, aerobic; Identification, anaerobe; Identification, enzyme detection; Identification, mold; Identification, Mycobacteria/ AFB; Identification, yeast; Sensitivity

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 15%	Acetylcholine Receptor Modulating AB
ANA w/ reflex to titer & ANA Group	ANA, Anti-Centromere	Positive ANA	Titer, Anti-Sm, Anti-RNP, Anti-SSA, Anti-SSB, Anti-DNA
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

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Autoimmune Encephalopathy Antibody Panel - CSF	IFA - (ANN1C, ANN2C, ANN3C, AGN1C, PCA2C, PCTRC, AMPHC, CRMC)	Indeterminate	WBNC
	IFA	Suggestive of CRMP-5-IgG	CRMWC
	IFA	Suggestive of amphiphysin antibody	ABLTC
	IFA	Suggestive of NMO/AQP4-IgG	NMOFC
		If NMO/AQP4-IgG FACS screen assay requires further investigation	NMO/AQP4-IgG FACS titration assay
	IFA	Suggestive of AMPA-R Ab and AMPCC is positive	AMPIC
	IFA	Suggestive of GABA-B-R Ab and GABCC is positive	GABIC
	IFA	Suggestive of NMDA-R Ab and NMDCC is positive	NMDIC
Autoimmune Encephalopathy Antibody Panel - Serum	IFA	Suggestive of ANN1S, ANN2S, ANN3S, PCAB2, PCATR, AMPHS, CRMS, or AGN1S is indeterminate	Paraneoplastic autoantibody Western blot
	IFA	Suggestive of CRMP-5-IgG	Western blot
	IFA	Suggestive of amphiphysin antibody	Amphiphysin Western blot
	IFA	Suggestive of NMO/AQP4-IgG	NMO/AQP4-IgG FACS
		If NMO/AQP4-IgG FACS screen assay requires further investigation	NMO/AQP4-IgG FACS titration assay
	IFA	Suggestive of NMDA-R Ab and NMDA-R antibody CBA is positive	NMDA-R titer
	IFA	Suggestive of AMPA-R Ab and AMPA-R antibody CBA is positive	AMPA-R titer
	IFA	Suggestive of GABA-B-R Ab and GABA-B-R antibody CBA is positive	GABA-B-R 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
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

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Paraneoplastic Ab Panel	See Test Catalog	Positives based on Mayo algorithm	As applicable: GAD65 Ab Assay, Paraneoplastic Autoantibody WBlot, CRMP-5-IgG Western Blot, ACh Receptor (Muscle) Modulating Ab, Amphiphysin Western Blot, NMO/AQP4-IgG CBA
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
Reticulin AB IGA w/ Reflex	Reticulin AB IGA	Positive screen	Reticulin AB Titer
Streptozyme w/ Reflex to Titer	Streptozyme Antibody	Positive screen	Streptozyme Titer
Striated Muscle AB w/ Reflex	Striated Muscle AB	Positive screen	Striated Muscle Titer
VDRL CSF	VDRL CSF	Positive screen	VDRL Titer

Special Chemistry

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

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