The following are the Laboratory Tests recommendations of the MS CDE Laboratory Tests and Non-Imaging Diagnostics Subgroup. The CDE recommendations have been divided into separate categories and are presented in different tables as shown below:

* Table 1 – CBC with Differential
* Table 2 – Chemistries
* Table 3 – CSF
* Table 4 – CSF Culture
* Table 5 – Blood Tests
* Table 6 – Urinalysis
* Table 7 – Leukapheresis

Table for CBC with Differential

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Basophils | Measured in cells per microliter or % | Safety | Core |
| Eosinophils | Measured in cells per microliter or % | Safety | Core |
| Hematocrit | Measured in cells per microliter or % | Safety | Core |
| Lymphocytes | Measured in cells per microliter or % | Safety | Core |
| Mean corpuscular hemoglobin (MCH) | Measured in gm/dL | Safety | Core |
| Mean corpuscular hemoglobin concentration (MCHC) | Measured in % | Safety | Core |
| Mean corpuscular volume (MCV) | Measured in femtoliter (fL) | Safety | Core |
| Mean platelet volume (MPV) | Measured in femtoliter (fL)  | Safety | Core |
| Monocytes | Measured in cells per microliter or % | Safety | Core |
| Neutrophils | Measured in cells per microliter or % | Safety | Core |
| Platelet count | Measured in cells per microliter or % | Safety | Core |
| RBC Morphology | Measured in cells per microliter or % | Safety | Core |
| Red Blood Cell (RBC) Count | Measured in cells/mcL; for drug trials | Safety | Core |
| WBC Morphology | Measured in cells per microliter or % | Safety | Core |
| Blasts | Measured in cells per microliter or % | Safety | Supplemental |
| Hemoglobin electrophoresis | Hb A, Hb A2, Hb F, Hb S, Hb C - measured in % | Safety | Supplemental |
| Macrophages | Measured in cells per microliter or % | Safety | Supplemental |
| Metamyelocytes | Measured in cells per microliter or % | Safety | Supplemental |
| Myelocytes | Measured in cells per microliter or % | Safety | Supplemental |
| Promyelocytes | Measured in cells per microliter or % | Safety | Supplemental |
| Red blood cell distribution width (RDW) | Measured in % | Safety | Supplemental |
| Stab cells/Band cells/Band neutrophils | Measured in cells per microliter or % | Safety | Supplemental |

Table for Chemistries

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Alanine transaminase (ALT) | Measured in U/L | Safety | Core |
| Albumin | Measured in g/dL | Safety | Core |
| Alkaline phosphatase (ALP) | Measured in IU/L | Safety | Core |
| Aspartate transaminase (AST) | Measured in IU/L | Safety | Core |
| Bicarbonate | Measured in mmol/L (bicarbonate) | Safety | Core |
| Bilirubin, total | Measured in mg/dL | Safety | Core |
| Blood urea nitrogen (BUN) | Measured in mg/dL | Safety | Core |
| Calcium | Measured in mg/dL | Safety | Core |
| Chloride | Measured in mEq/L | Safety | Core |
| Creatine kinase | Measured in IU/L | Safety | Core |
| Glucose | Measured in mg/dL | Safety | Core |
| Potassium | Measured in mEq/L | Safety | Core |
| Serum creatinine | Measured in mg/dL | Safety | Core |
| Sodium | Measured in mEq/L | Safety | Core |
| Total Protein | Measured in g/dL | Safety | Core |
| Amylase | Measured in U/L | Safety | Supplemental |
| Anion gap | Ratio measured in mEq/L | Safety | Supplemental |
| Bilirubin, total | Measured in mg/dL | Safety | Supplemental |
| Bilirubin, direct (conjugated) | Measured in mg/dL | Safety | Supplemental |
| Carbon dioxide | Measured in mEq/L | Safety | Supplemental |
| Ferritin | Measured in ng/mL | Safety | Supplemental |
| Gamma glutamyl transferase (GGT) | Measured in IU/L | Safety | Supplemental |
| Ionized Calcium | Measured in mg/dL | Safety | Supplemental |
| Iron | Measured in mcg/dL | Safety | Supplemental |
| Lactate | Measured in IU/L | Safety | Supplemental |
| Lactate dehydrogenase (LDH) | Measured in IU/L | Safety | Supplemental |
| Lipase | Measured in IU/L | Safety | Supplemental |
| Magnesium | Measured in mg/dL | Safety | Supplemental |
| Phosphate | Measured in mg/dL | Safety | Supplemental |
| Total Iron Binding Capacity | Measured in mcg/dL | Safety | Supplemental |
| Urate | Measured in μmol/L | Safety | Supplemental |
| Urea-N | Measured in mmol/L | Safety | Supplemental |

Table for CSF

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Albumin index | Measured in mg/dL. CSF to serum albumin ratio, x100. Reflects BBB permeability. | Diagnosis/ Safety | Supplemental |
| Albumin, CSF | Measured in mg/dL. Major CSF protein component. Originates from blood. | Diagnosis/ Safety | Supplemental |
| Cell count and Diff, CSF | Measured in cells/uL. WBC components. Predominantly mononuclears (lymphocytes, monocytes) but can also include neutrophils, eosinophils, plasma cells and other cells. | Outcome/ Diagnosis/ Safety | Supplemental |
| CSF lactate | Measured in mmol/L. CSF lactic acid level. Increased with tissue acidosis, anaerobic metabolism. | Outcome/ Diagnosis | Supplemental |
| CSF PCR for viruses |  Virus nucleic acid (DNA or RNA) detection in CSF. | Diagnosis/ Safety | Supplemental |
| Cytopathology, CSF |  Specialized technique to collect CSF cells with preserved morphology; used to detect malignant cells. | Diagnosis/ Safety | Supplemental |
| Glucose, CSF | Measured in mg/dL. Measures glucose level in CSF; dependent on blood level (normally 60 to 80% of blood level) | Diagnosis/ Safety | Supplemental |
| IgG, CSF | Measured in mg/dL. Quantitative IgG level in CSF. | Diagnosis/ Safety | Supplemental |
| IgG Index, CSF | Measured in mg/dL. Measures intrathecal IgG production. Derived from ratio of CSF IgG to CSF albumin compared to serum IgG to serum albumin ratio (quantitative abnormality). | Outcome/ Diagnosis/ Safety | Supplemental |
| Immunofixation Electrophoresis, Serum | Proteins are separated by electrophoresis, and then immune reactions are used to visualize and identify proteins. | Diagnosis/ Safety | Supplemental |
| Lyme Disease Ab, CSF | Positive; Negative. Immunoglobulin reactivity to B Burgdorferi. Measured by ELISA and/or Western blot. | Diagnosis/ Safety | Supplemental |
| MRZ Reaction | May be decreased by treatments that change intrathecal immunoglobulin production. Antibody index, q-specific versus the q IgG, localized in spinal fluid; 1.5 cutoff.  | Diagnosis / Safety/ Outcome  | Supplemental |
| Oligoclonal Banding, CSF | Positive; Negative. Two or more discrete IgG electrophoretic bands in CSF not in serum. Reflects restricted intrathecal IgG production (qualitative abnormality). | Diagnosis/ Safety/ Outcome | Supplemental |
| Protein, CSF | Measured in mg/dL. Measures total protein level in CSF predominantly albumin; reflects serum proteins with trace CNS components and intrathecal modified components. |  Diagnosis/Safety | Supplemental |
| Red Blood Cell Count, CSF |  Erythrocytes detected in CSF, RBCs per mm3. | Diagnosis/ Safety | Supplemental |
| VDRL, CSF | Positive; Negative. Nonspecific serologic test for syphilis; Venereal Disease Research Laboratory test is used to screen CSF for reagin antibodies diagnostic for neurosyphyilis. | Diagnosis/ Safety | Supplemental |
| CSF Antibodies against CNS antigens |  Detection of CSG antibodies directed against a specific CNS autoantigen target. | Outcome | Exploratory |
| CSF CXCL13 | Measured in picrograms. Quantitative measure of CXCL13 chemokine levels in CSF. | Outcome | Exploratory |
| CSF cytokines and chemokines |  Quantitative detection of levels of a specific cytokine/chemokine in CSF. | Outcome | Exploratory |
| CSF glial fibrillary acidic protein (GFAP) | Measured in ng/mL. Quantitative measure of soluble GFAP in CSF. | Outcome | Exploratory |
| CSF IgM index | Measured in mg/dL. Measures intrathecal IgM production. Derived from ratio of CSF IgM to CSF albumin compared to serum IgM to serum albumin. | Outcome | Exploratory |
| CSF immunophenotyping by FACS |  CSF cell population identification by antigens expressed by the cells, detected by specific antibodies.  | Outcome | Exploratory |
| CSF kappa |  Quantitative measure of kappa free light chains in CSF. | Outcome | Exploratory |
| CSF myelin basic protein (MBP) |  Quantitative measure of detectable MBP like material in CSF. | Outcome | Exploratory |
| CSF neural cell adhesion molecule (NCAM) | Measured in ng/mL. Quantitative measure of soluble NCAM in CSF. | Outcome | Exploratory |
| CSF neurofilament light chains |  Intentionally left blank | Outcome | Exploratory |
| CSF NMO IgG |  IgG antibodies reacting to aquaporin 4. Biomarker for NMO Devic spectrum disorder. | Outcome | Exploratory |
| Tears OCB |  Qualitative detection of two or more IgG electrophoretic bands in tears but not blood. | Outcome | Exploratory |

Table for CSF Culture

|  |  |  |  |
| --- | --- | --- | --- |
| CDE | General Comments | Purpose | Classification |
| Bacterial, Fungal culture | Cryptococcus neoformans antigen; Mycobacteria culture. Culture of CSF to identify presence of a bacterial or fungal pathogen. | Diagnosis/ Safety | Supplemental |
| Sterile fluid culture | Gram stain. No identification/growth of any microbial pathogen from CSF cultures. | Diagnosis/ Safety | Supplemental |

Table for Blood Tests

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Pregnancy test, blood | Test for beta subunit of human chorionic gonadotropin; results reported as positive, negative or not done; sensitive to as low as 1mIU/ml serum | Safety | Core |
| 5, 10 Methylene Tetra Hydrofolate Reductase | Results reported as positive, negative or not done. Measure of enzyme which metabolizes homocysteine. | Diagnosis/ Safety | Supplemental |
| Activated Partial Thromboplastin Time (aPTT)  | Measured in seconds. Detects abnormalities in blood clotting and anti- coagulants.  | Diagnosis/ Safety | Supplemental |
| Activated Protein C Resistance | Results reported as positive, negative or not done. Disorder characterized by poor anticoagulant response to activated protein C; acquired or inherited. | Diagnosis | Supplemental |
| Ammonia | Results reported as positive, negative or not done. Quantitative ammonia level. | Safety | Supplemental |
| Anti-CardiolipinAb, IgG, IgM | Results reported as positive, negative or not done; measured in U/mL | Diagnosis | Supplemental |
| Anti-ds DNA Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-ENA/ ANA Screen | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-HAV Hepatitis | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-HCA Hepatitis | Results reported as positive, negative or not done; measured in U/mL | Safety | Supplemental |
| Anti-HCB Hepatitis | Results reported as positive, negative or not done; measured in U/mL | Safety | Supplemental |
| Anti-HCV Hepatitis | Results reported as positive, negative or not done; measured in U/mL | Diagnosis | Supplemental |
| Anti-HIV Ab | Antibodies to HIV-1 and HIV-2, usually by ELISA; results reported as positive, negative or not done; positive result should be confirmed by Western Blot | Diagnosis/ Safety | Supplemental |
| Anti-HIV ½ Ab  | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-HLTV-I Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis | Supplemental |
| Anti-Interferon Ab Binding | Results reported as positive, negative or not done; measured in U/mL.  | Diagnosis/ Safety | Supplemental |
| Anti-Interferon AbNeutralizing | Results reported as positive, negative or not done; measured in U/mL; Sample titers, or ranges: negative (<1:20); moderate positive (>1:20 to <1:100) and highly positive (>1:100). | Diagnosis/ Safety | Supplemental |
| Anti-JC VAb (virus antibodies) | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-microsomal Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-mycoplasma Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| AntiNeutrophil Cytoplasmic Antibodies  | Results reported as positive, negative or not done | Diagnosis/ Safety | Supplemental |
| Anti-nuclear Ab | Results reported as positive, negative or not done; measured in titer | Diagnosis | Supplemental |
| Anti-SSA | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-SSB | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Antithrombin Activity (AT-III) | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-thyroglobulin Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Anti-thyroid Ab | Some laboratories report as anti-thyroid peroxidase  | Diagnosis/ Safety  | Supplemental |
| Anti-VZV Ab | Results reported as positive, negative or not done; measured in U/mL | Diagnosis/ Safety | Supplemental |
| Arterial Blood Gases | Measured in mmHg | Safety | Supplemental |
| β 2- glycoprotein Ab IgG, IgM | Measured in SGU and SMU, respectively | Diagnosis | Supplemental |
| Ceruloplasmin | Measured in mg/dL | Diagnosis/ Other | Supplemental |
| Cholesterol - HDL\*\*\* | Measured in mg/dL (U.S.) or mmol/L (outside U.S.) | Safety | Supplemental |
| Cholesterol - LDL\*\*\* | Measured in mg/dL (U.S.) or mmol/L (outside U.S.) | Safety | Supplemental |
| Cholesterol, total | Measured in mg/dL (U.S.) or mmol/L (outside U.S.) | Safety | Supplemental |
| Cholesterol - VLDL | Measured in mg/dL (U.S.) or mmol/L (outside U.S.) | Safety | Supplemental |
| C-reactive protein (CRP) | Measured in mg/L | Diagnosis | Supplemental |
| Creatinine Clearance | Measured in mL/min | Safety | Supplemental |
| Creatine Kinase - Myocardial Bands | Measured in ng/mL | Safety | Supplemental |
| D-dimer | Results reported as positive, negative or not done | Safety | Supplemental |
| Epstein-Barr virus (EBV) panel | Includes early antigen (EA), VCA IgG, IgM, and EBNA. Results reported as positive, negative or not done. | Diagnosis/ Other | Supplemental |
| Erythrocyte Sedimentation Rate | Measured in mm/hr | Diagnosis | Supplemental |
| Factor V Leiden Mutation | Results reported as negative, heterozygous, or homozygous | Diagnosis | Supplemental |
| Fibrinogen | Measured in mg/dL | Safety | Supplemental |
| Folate, serum level | Measured in ng/mL | Diagnosis | Supplemental |
| GAD 65 Ab | Intentionally left blank | Intentionally left blank | Intentionally left blank |
| Glomerular Filtration Rate (eGFR) | Sample ranges: estimated creatinine clearance – normal 90+; mild 60-89; moderate 30-59; <15ml/min = kidney failure; measured in mL/min; required if study uses MRI with contrast | Safety | Supplemental |
| Glycosylated hemoglobin (HbA1c) | Results indicate "average" blood sugar over 6-12 week time; sample normal is 4%-6%; measured in % | Diagnosis | Supplemental |
| High sensitivity C Reactive Protein | Acute phase reactant elevated with inflammation; non-specific; not clear, usually is <10.0; measured in mg/L | Diagnosis | Supplemental |
| HLA-A, B, Cw | Genetic alleles within human MHC locus alleles, e.g. HLA-A\*0101, etc. | Other | Supplemental |
| HLA-DR, DQ | Genetic alleles within human MHC locus alleles, e.g. HLA-DRB1\*1501, etc. | Other | Supplemental |
| Homocysteine | Elevated levels associated with B12, folic acid, and pyridoxine deficiencies; sample elevated level is > 10.4 μmol/L, or> 140 μg/dl; measured in μmol/L or ug/dL | Diagnosis | Supplemental |
| Human T-cell lymphotropic virus type 1 (HTLV-1) | Antibodies to retrovirus HTLV-1, typically screen with ELISA, confirmation with Western blotpositive, negative, sometimes provides titers | Diagnosis | Supplemental |
| Human T-cell lymphotropic virus type 2 (HTLV-2) | Antibodies to retrovirus HTLV-2,positive, negative, sometimes provides titers | Diagnosis | Supplemental |
| Lupus Anticoagulant | Functional test detects immunoglobulin that binds phospholipids, name is misnomer, functionally Pro-thrombotic; results reported as positive, negative or not done | Diagnosis | Supplemental |
| Lyme disease Ab, Serum | Antiboodies to Borrelia Burgdorferi, screen with ELISA, confirmation with Western blot; results reported as positive,indeterminant/borderline, negative or not done | Diagnosis | Supplemental |
| Methylmalonic acid | Elevated levels associated with B12 deficiency; sample normal range 73-271 nmol/L; often elevated non-specifically in elderly; measured in nmol/L | Diagnosis | Supplemental |
| Neutralizing-IFN ab | Endogenous antibodies that inhibit activity of beta-interferons; typically a two-step test that initially checks for binding antibodies by ELISA, then in vitro neutralization functional assays. | Other | Supplemental |
| NMO IgG | Positive or negative  | Diagnosis | Supplemental |
| Paraneoplastic panel/Autoimmune encephalopathies panel  | Test for autoantibodies often associated with cancers; includes ANNA 1(Hu); ANNA 2 (Ri), ANNA 3, anti-Yo (against Purkinje cells); Purkinje cell Tr, CRMP-5 IgG, amphyiphysin Ab, AGNA1, antibodies to voltage gated potassium channels associated antigens/proteins, AChR binding and antibodies against ganglionic neuronal antigens, and others; results reported as positive or negative, and sometimes provided as titers | Diagnosis | Supplemental |
| Protein C activity | Functional test detects decreased or insufficient production or excess utilization of Protein C; Date result; results reported as titer if available; if positive, should always be repeated, since often non-specifically decreased | Diagnosis | Supplemental |
| Protein S activity | Functional test detects decreased or insufficient production or excess utilization of Protein S date result; results reported as titer if available; if positive, should always be repeated, since often non-specifically decreased | Diagnosis | Supplemental |
| Prothrombin gene mutation | Prothrombin 20210 genetic point mutation predisposes to clotting negative, heterozygous, homozygous | Diagnosis | Supplemental |
| Prothrombin time/ international normalized ratio (PT/INR) | Ratio of PT tested to PT of normal controls, used to standardize PT sample normal range is 0.8-1.2; measured as a ratio  | Safety | Supplemental |
| Protoplasmic-staining AntiNeutrophil Cytoplasmic Antibodies (ANCA) | Autoantibodies to cytoplasmic antigens in neutrophils; positive in several types of vasculidites, e.g. Wegner's, Churg-Strauss; usually given as titers | Diagnosis | Supplemental |
| Rapid plasma reagin (RPR/VDRL) | Screening test for antibodies to syphilis in blood; most sensitive in Secondary Syphilis, less sensitive in primary and tertiary syphilis; should be confirmed with the more specific FTA-ABS test | Diagnosis | Supplemental |
| Rheumatoid factor | IgM autoantibody against Fc portion of self IgG; can bind to IG to form immune complexes; positive in 80% of patients with Rheumatoid Arthritis, 70% of patients with Sjogren's Syndrome, in 5-10% healthy controls | Diagnosis | Supplemental |
| serum IgA | Isotype of Ig; sample normal range is 70-370 measured in mg/dL | Other | Supplemental |
| serum IgE | Isotype of Ig; upper limit of normal not well defined; measured in mg/dL | Other | Supplemental |
| serum IgG | Isotype of Ig; sample normal range is 700-1450; measured in mg/dL | Other | Supplemental |
| serum IgM | Isotype of Ig; sample normal range is 30-210; measured in mg/dL | Other | Supplemental |
| Serum protein electrophoresis with immunofixation | Screening test for disease such as multiple myeloma, macroglobulinemia, amyloidosis. Separation of major serum proteins by electrophoresis, with identification by immune methods; total protein : 6.4-8.3; albumin 3.5-5.0; alpha-1globulin 0.1-0.3; alpha-2-globulin 0.6-1.0; beta globulin 0.7-1.2; gamma globulin 0.7-1.6 g/dL; measured in g/dL | Diagnosis | Supplemental |
| Skin test 3 antigens | Results reported as positive, negative or not done | Safety | Supplemental |
| Stool for occult blood | Test for fecal occult blood, using alpha-guaiaconic acid and hydrogen peroxide; iron supplements and various foods can alter results results reported as positive, negative or not done | Safety | Supplemental |
| TB Skin testing | 0.1ml puripfied protein derivative of T.B. Positive is >15mm induration; >10mm in immunosuppressed persons, negative <10mm. Can be false positive after BCG vaccination. Can be falsely negative; read as mm of induration at 48-72hr. | Safety/ Other | Supplemental |
| Thrombin time | Measured in seconds | Diagnosis | Supplemental |
| Thyroid stimulating hormone (TSH) | Measured in mIU/L | Diagnosis/ Safety | Supplemental |
| Triiodothyronine (T3)  | Measured in mcg/dL; ordered and reported when TSH is <0.40 molU/mL or >4.00 mclU/mL | Safety | Supplemental |
| Thyroxine (T4), free | Measured in mcg/dL; ordered and reported when TSH is <0.40 molU/mL or >4.00 mclU/mL | Safety | Supplemental |
| Triglycerides | Measured in mg/dL (U.S.) or mmol/L (outside U.S.) | Safety | Supplemental |
| Troponin I | Measured in µg/L | Safety | Supplemental |
| Troponin T | Measured in µg/L | Safety | Supplemental |
| Uric acid | Measured in mg/dL | Other | Supplemental  |
| Vitamin B12, Serum level | Measured in ng/L | Diagnosis | Supplemental |
| Vitamin D, 25 hydroxy | Measured in ng/mL or nmol/L | Other | Supplemental |

Table for Urinalysis

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Bacteria | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Blood | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Clarity | Normal result = Clear | Safety | Core |
| Color | Normal result = Yellow | Safety | Core |
| Glucose | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Ketones | Measured in mg/dL | Safety | Core |
| Leukocytes | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Leukocyte esterase | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Nitrite | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| pH | Intentionally left blank | Safety | Core |
| Protein | Measured in mg/dL | Safety | Core |
| Red cell/microscopic RBC | Measured in cells/high power field (HPF); Normal = Trace or None. | Safety | Core |
| Specific gravity | Urine analysis parameter commonly used in the evaluation of kidney function and state of hydration  | Safety | Core |
| Urobilinogen | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Core |
| Casts | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Supplemental |
| Crystals | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Supplemental |
| Epithelial cells | Normal result = Few or None | Safety | Supplemental |
| Hemoglobin | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Supplemental |
| Pregnancy test, urine | Test for beta subunit of human chorionic gonadotropin; results reported as positive, negative or not done; sensitive to as low as 10mIU/ml  | Safety | Supplemental |
| Toxicology screen | Results reported as positive, negative or not done | Diagnosis | Supplemental |
| Urine cast/LPF | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Supplemental |
| White cell/microscopic WBC | Measured in cells/high power field (HPF); Normal = Trace or None. | Safety | Supplemental |
| Yeast | Reported as present or absent; normal result = Absent, abnormal result = Present | Safety | Supplemental |

Table for Leukapheresis

| CDE | General Comments | Purpose | Classification |
| --- | --- | --- | --- |
| Date of leukapheresis | mm/dd/yyyy | Other | Exploratory |
| Is another apheresis needed? | If Yes, how many ml are needed? | Other | Exploratory |
| MSC Culture | Permissible values: Bone marrow aspiration; Percoll gradient/primary culture; MSC Harvest | Other | Exploratory |
| Number of cells harvested |  Intentionally left blank | Other | Exploratory |
| Procedure# |  Intentionally left blank | Other | Exploratory |
| Result of leukapheresis | Permissible values: Complete apheresis; Incomplete apheresis; Apheresis not started | Other | Exploratory |
| Total volume of therapeutic lympapheresis taken in ml this time | Measured in mL | Other | Exploratory |
| Type of leukapheresis | Permissible values: Full; Partial | Other | Exploratory |