

ACL Laboratories Converts to Molecular Identification of Positive Blood Cultures

Blood cultures remain one of the most important diagnostic tools for identification and treatment of septic patients. Within the past decade there have been many microbiology and molecular diagnostic advancements allowing the laboratory to more quickly identify the pathogens found in these cultures.

Currently, ACL Laboratories Central Microbiology Department utilizes a rapid Matrix-Assisted Laser Desorption Ionization Time-of Flight (MALDI-TOF) Mass Spectrometry method for identification of the offending pathogen found in positive blood cultures. While rapid compared to traditional MALDI-TOF testing, this process still takes approximately six (6) hours before results can be obtained. In addition, it only provides an identification in approximately 60 percent of positive blood cultures, and it does not provide any antimicrobial susceptibility information.

Effective immediately, ACL Laboratories will convert from using MALDI-TOF as our primary method for blood culture identification to using Biofire FilmArray Blood Culture Identification Assay (BCID2). The BCID2 is a molecular diagnostic assay that detects 32 of the pathogens most commonly identified in positive blood cultures. In addition, it detects 10 different genetic markers of antibiotic resistance including markers associated with the presence of methicillin resistant *Staphylococcus aureus* (MRSA), vancomycin resistant *Enterococcus* species (VRE), carbapenemase producing *Enterobacterales* (CRE), and extended spectrum beta-lactamase producing *Enterobacterales* (ESBL). Utilizing this test, **ACL expects to identify approximately 85 percent of the offending pathogens from positive blood cultures within 1-2 hours after the culture turns positive (compared to identifying about 60 percent within 6 hours at present).** In addition, **we expect approximately 50 percent of the organisms identified will also have some preliminary data on the antibiotic resistance profile.** ACL will continue to perform traditional susceptibility testing in order to get a more complete antibiotic resistance profile.

Data collected during a trial at an ACL Laboratories/Advocate Aurora Health (AAH) site utilizing this technology demonstrated a decrease of approximately 25 percent in the average time from collection of blood cultures to identification of the primary pathogen. Numerous studies have demonstrated that the use of molecular blood culture identification panels and antimicrobial stewardship practices routinely decrease length of stays in both general wards and in ICUs, decrease unnecessary antibiotic use, and decrease mortality rates.

For additional information, please contact Dr. Eric Beck, ACL Laboratories Microbiology Technical Director; eric.beck@aah.org.

2022 CPT Code Changes

SYNONYM	LAB code	Test Description	2021 CPT Code(s)	2022 CPT Code(s)
PANCEF	LAB9741	Pancreatic Elastase, Fecal	83520	82653
ILEU6	LAB10658	Interleukin-6	83520	83529
SMA	LAB8502	Smooth Muscle Antibody (F Actin)	83516	86015
ANCA	LAB10895	Anti-Neutrophil Cytoplasmic Antibody, IgG by IFA	86255	86036
AQUA4	LAB9360	Aquaporin-4 Receptor Ab IgG w/ Reflex	86255	86052
AQUA4CSF	LAB10456	Aquaporin-4 Receptor Antibody, IgG by IFA, CSF with Reflex to Titer	86255	86052
AMITO	LAB9046	Mitochondrial Antibody	83516	86381
KAPLAM	LAB8484	KAPPA/LAMBDA Quantitative Free Light Chains with Ratio	83520 x2	83521 x2
SIFEMX	LAB8110	Immunofixation Electro, Serum w/IgG,A,M and Kappa/Lambda Free Light Chains	82784 x3 83520 x2 86334	82784 x3 83521 x2 86334
UKLFR	LAB9640	Kappa/Lambda Light Chains, Free, Urine	83520 x2 84156 86335	83521 x2 84156 86335
GLIGAP	LAB8479	Gliadin Peptide Antibody IgA, Deamidated	83516	86258
GLIGGP	LAB8480	Gliadin Peptide Antibody IgG, Deamidated	83516	86258
GLABSP	LAB8522	Gliadin Peptide Antibody IgA and IgG, Deamidated	83516 x2	86258 x2
TTABAP	LAB8557	Tissue Transglutaminase Antibody, IgA	83516	86364
TTABGP	LAB8559	Tissue Transglutaminase Antibody, IgG	83516	86364
TTABSP	LAB8558	Tissue Transglutaminase Antibody, IgA and IgG	83516 X2	86364 x2
CELSR2	LAB8471	Celiac Disease, Under 2 years	82784 83516 x3	82784 86258 86364 x2
CELSCR	LAB8470	Celiac Disease Screen, 2 Years and Over	82784 83516	82784 86364
CELRX	LAB10180	Celiac Disease Screen, Additional Antibodies	83516 x2	86258 86364
VOLTCA	LAB9888	Voltage-Gated Calcium Channel IgG Autoantibodies	83519	86596
PARNEO	LAB9748	Paraneoplastic Autoantibody Ev.	83519 x5 86255 x10	83519 x4 86596 86255 x10
BCID2	LAB10961	Blood Culture, Rapid ID 2	87150 x42	87154