and identification of microbial pathogens directly from whole blood specimens is a qualitative in vitro device intended for the amplification, detection, and identification of microbial-associated nucleic acid sequences from patients with suspected bloodstream infections. This device is intended to aid in the diagnosis of bloodstream infection when used in conjunction with clinical signs and symptoms and other laboratory findings.

(b) *Classification.* Class II (special controls). The special controls for this device are:

(1) Premarket notification submissions must include detailed device description documentation, including the device components, ancillary reagents required but not provided, and a detailed explanation of the methodology, including primer/probe sequence, design, and rationale for sequence selection.

(2) Premarket notification submissions must include detailed documentation from the following analytical and clinical performance studies: Analytical sensitivity (limit of detection), reactivity, inclusivity, precision, reproducibility, interference, cross reactivity, carryover, and cross contamination.

(3) Premarket notification submissions must include detailed documentation from a clinical study. The study, performed on a study population consistent with the intended use population, must compare the device performance to results obtained from well-accepted reference methods.

(4) Premarket notification submissions must include detailed documentation for device software, including, but not limited to, software applications and hardware-based devices that incorporate software.

(5) The device labeling must include limitations regarding the need for culture confirmation of negative specimens, as appropriate.

(6) A detailed explanation of the interpretation of results and acceptance criteria must be included in the device's 21 CFR 809.10(b)(9) compliant labeling.

(7) Premarket notification submissions must include details on an end user device training program that will be offered while marketing the device, as appropriate.

(8) As part of the risk management activities performed as part of your 21 CFR 820.30 design controls, you must document an appropriate end user device training program that will be offered as part of your efforts to mitigate the risk of failure to correctly operate the instrument.

[82 FR 47967, Oct. 16, 2017]

§ 866.3966 Device to detect and identify selected microbial agents that cause acute febrile illness.

(a) *Identification.* A device to detect and identify selected microbial agents that cause acute febrile illness is identified as an in vitro device intended for the detection and identification of microbial agents in human clinical specimens from patients with signs and symptoms of acute febrile illness who are at risk for exposure or who may have been exposed to these agents. It is intended to aid in the diagnosis of acute febrile illness in conjunction with other clinical, epidemiologic, and laboratory data, including patient travel, pathogen endemicity, or other risk factors.

(b) *Classification.* Class II (special controls). The special controls for this device are:

(1) Any sample collection device used must be FDA-cleared, -approved, or -classified as 510(k) exempt (standalone or as part of a test system) for the collection of specimen types claimed by this device; alternatively, the sample collection device must be cleared in a premarket submission as a part of this device.

(2) The labeling required under § 809.10(b) of this chapter must include:

(i) An intended use that includes a detailed description of targets the device detects and measures, the results provided to the user, the clinical indications appropriate for test use, and the specific population(s) for which the device is intended.

(ii) Limiting statements indicating:

(A) Not all pathogens that cause febrile illness are detected by this test and negative results do not rule out the presence of other infections;

(B) Evaluation of more common causes of acute febrile illness should be

considered prior to evaluation with this test;

(C) Test results are to be interpreted in conjunction with other clinical, epidemiologic, and laboratory data available to the clinician; and

(D) When using this test, consider patient travel history and exposure risk, as some pathogens are more common in certain geographical locations.

(iii) A detailed device description, including reagents, instruments, ancillary materials, all control elements, and a detailed explanation of the methodology, including all pre-analytical methods for processing of specimens.

(iv) Detailed discussion of the performance characteristics of the device for all claimed specimen types as shown by the analytical and clinical studies required under paragraphs (b)(3)(ii) and (iii) of this section, except specimen stability performance characteristics.

(v) A statement that nationally notifiable results are to be reported to public health authorities in accordance with local, state, and federal law.

(3) Design verification and validation must include:

(i) A detailed device description (*e.g.*, all device parts, control elements incorporated into the test procedure, reagents required but not provided, the principle of device operation and test methodology), and the computational path from collected raw data to reported result (*e.g.,* how collected raw signals are converted into a reported result).

(ii) Detailed documentation of analytical studies, including those demonstrating Limit of Detection (LoD), inclusivity, cross-reactivity, microbial interference, interfering substances, competitive inhibition, carryover/cross contamination, specimen stability, within lab precision, and reproducibility, as appropriate.

(iii) Detailed documentation and performance results from a clinical study that includes prospective (sequentially collected) samples for each claimed specimen type and, when determined to be appropriate by FDA, additional characterized clinical samples. The study must be performed on a study population consistent with the intended use population and compare the device performance to results obtained from FDA-accepted comparator methods. Documentation from the clinical studies must include the clinical study protocol (including a predefined statistical analysis plan), study report, testing results, and results of all statistical analyses.

(iv) A detailed description of the impact of any software, including software applications and hardware-based devices that incorporate software, on the device's functions.

[89 FR 66558, Aug. 16, 2024]

§ 866.3970 Device to detect and identify microbial pathogen nucleic acids in cerebrospinal fluid.

(a) *Identification.* A device to detect and identify microbial pathogen nucleic acids in cerebrospinal fluid is a qualitative in vitro device intended for the detection and identification of microbial-associated nucleic acid sequences from patients suspected of meningitis or encephalitis. A device to detect and identify microbial pathogen nucleic acids in cerebrospinal fluid is intended to aid in the diagnosis of meningitis or encephalitis when used in conjunction with clinical signs and symptoms and other clinical and laboratory findings.

(b) *Classification.* Class II (special controls). The special controls for this device are:

(1) Premarket notification submissions must include detailed device description documentation, including the device components, ancillary reagents required but not provided, and a detailed explanation of the methodology, including primer/probe sequence, design, and rationale for sequence selection.

(2) Premarket notification submissions must include detailed documentation from the following analytical studies: Analytical sensitivity (limit of detection), inclusivity, reproducibility, interference, cross reactivity, and specimen stability.

(3) Premarket notification submissions must include detailed documentation from a clinical study. The study, performed on a study population