

***Ehrlichia chaffeensis*, Strain Heartland**

Catalog No. NR-46443

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Product Description: *Ehrlichia chaffeensis* (*E. chaffeensis*), strain Heartland was isolated in 1999 from the blood of a human with acute fatal monocytic ehrlichiosis (HME) in Nebraska, USA.

Lot¹: 70010787

Manufacturing Date: 20NOV2018

TEST	SPECIFICATIONS	RESULTS
Identification by Indirect Fluorescent Antibody (IFA) Assay²	Fluorescence observed	Fluorescence observed
Sequencing of Species-Specific Region (~860 nucleotides)	≥ 98% identity with <i>E. chaffeensis</i> , strain Heartland (GenBank: CP007473.1)	100% identity with <i>E. chaffeensis</i> , strain Heartland (GenBank: CP007473.1)
Titer by TCID₅₀ Assay^{3,4} in DH82 Cells⁵ by IFA²	Report results	8.9 × 10 ⁵ TCID ₅₀ per mL
Amplification of <i>E. chaffeensis</i> Sequence by PCR	~ 1000 base pair amplicon	~ 1000 base pair amplicon
Sterility (21-day incubation) Harpo's HTYE broth ⁶ , 37°C and 26°C, aerobic Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Brucella agar, 37°C, anaerobic Thioglycollate broth, 37°C, anaerobic DMEM with 10% FBS, 37°C and 5% CO ₂	No growth No growth No growth No growth No growth No growth No growth	No growth No growth No growth No growth No growth No growth No growth
Mycoplasma Contamination Agar and broth culture (14-day incubation at 37°C) DNA detection by PCR of extracted Test Article nucleic acid	None detected None detected	None detected None detected

¹Grown in Dulbecco's Modified Eagle's Medium containing 4 mM L-glutamine, 4500 mg per L glucose, 1 mM sodium pyruvate and 1500 mg per L sodium bicarbonate (ATCC[®] 30-2002) supplemented with 5% fetal bovine serum (ATCC[®] 30-2020) for 7 days at 37°C with 5% CO₂.

²Using *Ehrlichia chaffeensis* IFA IgG reagent kit (Fuller Laboratories ECHG-120)

³The Tissue Culture Infectious Dose 50% (TCID₅₀) endpoint is the 50% infectious endpoint in cell culture. The TCID₅₀ is the dilution of organism that under the conditions of the assay can be expected to infect 50% of the culture vessels inoculated, just as a Lethal Dose 50% (LD₅₀) is expected to kill half of the animals exposed. A reciprocal of the dilution required to yield the TCID₅₀ provides a measure of the titer (or infectivity) of the organism preparation.

⁴Assay plates were incubated 14 days at 37°C with 5% CO₂.

⁵*Canis familiaris* macrophage-monocyte cells (DH-82; ATCC[®] CRL-10389™)

⁶Atlas, Ronald M. *Handbook of Microbiological Media*. 3rd ed. Ed. Lawrence C. Parks. Boca Raton: CRC Press, 2004, p. 798

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