

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. NR-46443 was produced by inoculation of BEI Resources seed lot 70010788 into *Canis familiaris* macrophage-monocyte cells (DH82; ATCC® CRL-3590™) and incubated for 6 days at 37°C in an aerobic atmosphere with 5% CO₂, then passaged and incubated another 7 days at 37°C in an aerobic atmosphere with 5% CO₂. Quality control testing was completed under propagation conditions unless otherwise noted.

Lot: 70065878

Manufacturing Date: 23MAY2024

TEST	SPECIFICATIONS	RESULTS
Identification by Indirect Fluorescent Antibody (IFA) Assay¹	Fluorescence observed	Fluorescence observed
Genotypic Analysis Sequencing of ECH_0849 gene (~ 900 base pairs)	≥ 99% identity with <i>E. chaffeensis</i> , strain Heartland (GenBank: CP007473.1)	99.9% identity with <i>E. chaffeensis</i> , strain Heartland (GenBank: CP007473.1)
Titer by TCID₅₀ Assay in DH82 Cells by PCR² (14 days at 37°C with 5% CO ₂)	Report results	2.8 × 10 ⁴ 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, 37°C and 26°C, aerobic ³ Trypticase soy broth, 37°C and 26°C, aerobic Sabouraud broth, 37°C and 26°C, aerobic Sheep blood agar, 37°C, aerobic Sheep blood 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

¹Detected using positive control antibody (Fuller Laboratories ECP) and IFA Conjugate (Fuller Laboratories HCG-25).

²The 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.

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

/Sonia Bjorun Brower/

Sonia Bjorun Brower

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Technical Manager or designee, ATCC Federal Solutions

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