

## *Ehrlichia chaffeensis*, Strain Jax

### Catalog No. NR-46444

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#### Contributor:

Yasuko Rikihisa, Ph.D., Department of Veterinary Biosciences, The Ohio State University College of Veterinary Medicine, Columbus, Ohio, USA and Centers for Disease Control and Prevention, Atlanta, GA, USA

#### Manufacturer:

BEI Resources

#### Product Description:

Bacteria Classification: *Anaplasmataceae*, *Ehrlichia*

Species: *Ehrlichia chaffeensis*

Strain: Jax

Original Source: *Ehrlichia chaffeensis* (*E. chaffeensis*), strain Jax was isolated in 1996 from the blood of a 51-year-old female patient in Florida, USA, who received multiple tick bites and subsequently developed fatal human monocytic ehrlichiosis (HME).<sup>1,2</sup>

Comments: The complete genome of *E. chaffeensis*, strain Jax has been sequenced (GenBank: [CP007475](#)).

*E. chaffeensis* is a Gram-negative, obligate intracellular pathogen of eukaryotic cells and belongs to the alpha subdivision of Proteobacteria. It was originally classified in the family *Rickettsiaceae*, but subsequently reassigned to the family *Anaplasmataceae*, both families belonging to the order Rickettsiales.<sup>3</sup> *E. chaffeensis* is transmitted to humans by the lone star tick (*Amblyomma americanum*) and is the causative agent of HME.

#### Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from *Canis familiaris* macrophage-monocyte cells infected with *E. chaffeensis*, strain Jax, supplemented with fetal bovine serum and DMSO.

Note: If homogeneity is required for your intended use, please purify prior to initiating work.

#### Packaging/Storage:

NR-46444 was packaged aseptically in screw-capped plastic cryovials and is provided frozen on dry ice. The product should be stored at -130°C or colder, preferably in the vapor phase of a liquid nitrogen freezer. If liquid nitrogen storage facilities are not available, frozen cryovials may be stored at -70°C or colder for approximately one week. Freeze-thaw cycles should be avoided.

#### Growth Conditions:

Host: *Canis familiaris* macrophage-monocyte cells (DH-82; ATCC® CRL-10389™)

Growth Medium: 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, supplemented with 5% fetal bovine serum, or equivalent.

Infection: Cells should be 70% to 90% confluent

Incubation: 10 to 11 days at 37°C and 5% CO<sub>2</sub>

Cytopathic Effect: Cell enlargement, rounding, detachment, granularity or other toxicity may or may not be observed. It is recommended that replication of *E. chaffeensis* be confirmed by PCR, IFA or staining of morulae with Diff-Quik (modified Giemsa stain).<sup>4</sup>

#### Citation:

Acknowledgment for publications should read "The following reagent was obtained through BEI Resources, NIAID, NIH: *Ehrlichia chaffeensis*, Strain Jax, NR-46444."

#### Biosafety Level: 2

Appropriate safety procedures should always be used with this material. Laboratory safety is discussed in the following publication: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, and National Institutes of Health. Biosafety in Microbiological and Biomedical Laboratories. 5th ed. Washington, DC: U.S. Government Printing Office, 2009; see [www.cdc.gov/biosafety/publications/bmbl5/index.htm](http://www.cdc.gov/biosafety/publications/bmbl5/index.htm).

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**References:**

1. Rikihisa, Y., Personal Communication.
2. Paddock, C. D., et al. "Isolation and Characterization of *Ehrlichia chaffeensis* Strains from Patients with Fatal Ehrlichiosis." *J. Clin. Microbiol.* 35 (1997): 2496-2502. PubMed: 9316896.
3. Dumler, J. S., et al. "Reorganization of Genera in the Families *Rickettsiaceae* and *Anaplasmataceae* in the Order Rickettsiales: Unification of Some Species of *Ehrlichia* with *Anaplasma*, *Cowdria* with *Ehrlichia* and *Ehrlichia* with *Neorickettsia*, Descriptions of Six New Species Combinations and Designation of *Ehrlichia equi* and 'HGE agent' as Subjective Synonyms of *Ehrlichia phagocytophila*." *Int. J. Syst. Evol. Microbiol.* 51 (2001): 2145-2165. PubMed: 11760958.
4. Chen, S-M., et al. "Cultivation of *Ehrlichia chaffeensis* in Mouse Embryo, Vero, BGM, and L929 Cells and Study of *Ehrlichia*-Induced Cytopathic Effect and Plaque Formation." *Infect. Immun.* 63 (1995): 647-655. PubMed: 7822034.

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