Product Information Sheet for NR-46444

Ehrlichia chaffeensis, Strain JAX

Catalog No. NR-46444

This reagent is the property of the U.S. Government.

For research use only. Not for human use.

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, Georgia, 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).[1,2]
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.[3] *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 (DH82; 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% to 10% fetal bovine serum, or equivalent; optionally, the growth medium may also be supplemented with cycloheximide and additional L-glutamine.
Infection: Cells should be 60% to 80% confluent
Incubation: 10-to-11 days at 37°C and 5% CO_2
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).[4]

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.

Disclaimers:

You are authorized to use this product for research use only. It is not intended for human use.

Use of this product is subject to the terms and conditions of the BEI Resources Material Transfer Agreement (MTA). The MTA is available on our Web site at www.beiresources.org.

While BEI Resources uses reasonable efforts to include accurate and up-to-date information on this product sheet, neither ATCC® nor the U.S. Government makes any warranties or representations as to its accuracy. Citations from scientific literature and patents are provided for informational purposes only. Neither ATCC® nor the U.S. Government warrants that such information has been confirmed to be accurate.

This product is sent with the condition that you are responsible for its safe storage, handling, use and disposal. ATCC® and the U.S. Government are not liable for any damages or injuries arising from receipt and/or use of this product. While reasonable effort is made to ensure authenticity and reliability of materials on deposit, the U.S. Government, ATCC®, their suppliers and contributors to BEI Resources are not liable for damages arising from the misidentification or misrepresentation of products.

Use Restrictions:

This material is distributed for internal research, non-commercial purposes only. This material, its product or its

derivatives may not be distributed to third parties. Except as performed under a U.S. Government contract, individuals contemplating commercial use of the material, its products or its derivatives must contact the contributor to determine if a license is required. U.S. Government contractors may need a license before first commercial sale.

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.

Support Provided by NIAID

BEI Resources
www.beiresources.org

E-mail: contact@beiresources.org
Tel: 800-359-7370
Fax: 703-365-2898