

Anaplasma phagocytophilum, Strain Webster

Catalog No. NR-50142

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Contributor:

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Manufacturer:

BEI Resources

Product Description:

Bacteria Classification: *Anaplasmataceae, Anaplasma*

Species: *Anaplasma phagocytophilum*

Strain: Webster

Original Source: *Anaplasma phagocytophilum* (*A. phagocytophilum*), strain Webster was isolated from the blood of an infected human in May 1996 in Wisconsin, USA.¹

Comments: The complete genome of *A. phagocytophilum*, strain Webster has been sequenced (GenBank: [LANS00000000](https://www.ncbi.nlm.nih.gov/nuccore/LANS00000000)).

A. phagocytophilum is a Gram-negative, obligate intracytoplasmic bacteria that infects bone marrow-derived mammalian cells, predominantly of the myeloid lineage.² The species was formerly known as *Ehrlichia phagocytophila* and classified in the family *Rickettsiaceae*, but subsequently reassigned to the family *Anaplasmataceae*, both families belonging to the order Rickettsiales.³ *A. phagocytophilum* is transmitted by *Ixodes persulcatus* complex ticks and is the causative agent of tick-borne fever of ruminants, equine granulocytic ehrlichiosis and human granulocytic ehrlichiosis (HGE).^{2,3}

Material Provided:

Each vial contains approximately 1 mL of cell lysate and supernatant from human promyelocytic leukemia cells (HL-60; ATCC® CCL-240™) infected with *A. phagocytophilum*, strain Webster, supplemented with 30% fetal bovine serum and 10% DMSO.

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

Packaging/Storage:

NR-50142 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: HL-60 cells (ATCC® CCL-240™)

Growth Medium: RPMI-1640 medium supplemented with 10% fetal bovine serum, or equivalent

Infection: Host cells should be at a dilution of 1 × 10⁵ to 1 × 10⁶ cells/mL. Add entire vial to host cells for coinfection.

Incubation: 1 to 5 days at 37°C and 5% CO₂

Cytopathic Effect: Uninfected HL-60 cells are typically round with smooth borders. Infected cell borders are rough in appearance. It is recommended that replication of *A. phagocytophilum* be confirmed by IFA.

Citation:

Acknowledgment for publications should read “The following reagent was obtained through BEI Resources, NIAID, NIH: *Anaplasma phagocytophilum*, Strain Webster, NR-50142.”

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.

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References:

1. Dumler, J. S., Personal Communication.
2. Dumler, J. S., et al. "Reorganization of Genera in the Families *Rickettsiaceae* and *Anaplasmataceae* in the Order Rickettsiales: Unification of Some Species of *Anaplasma* with *Anaplasma*, *Cowdria* with *Anaplasma* and *Anaplasma* with *Neorickettsia*, Descriptions of Six New Species Combinations and Designation of *Anaplasma equi* and 'HGE agent' as Subjective Synonyms of *Anaplasma phagocytophila*." Int. J. Syst. Evol. Microbiol. 51 (2001): 2145-2165. PubMed: 11760958.
3. Dumler, J. S., et al. "Human Granulocytic Anaplasmosis and *Anaplasma phagocytophilum*." Emerg. Infect. Dis. 11 (2005): 1828-1834. PubMed: 16485466.
4. Scorpio, D. G., et al. "Sequential Analysis of *Anaplasma phagocytophilum msp2* Transcription in Murine and Equine Models of Human Granulocytic Anaplasmosis." Clin. Vaccine Immunol. 15 (2008): 418-424. PubMed: 18094110.
5. Teglas, M. B. and J. Foley. "Differences in the Transmissibility of Two *Anaplasma phagocytophilum* Strains by the North American Tick Vector Species, *Ixodes pacificus* and *Ixodes scapularis* (Acari: Ixodidae)." Exp. Appl. Acarol. 38 (2006): 47-58. PubMed: 16550334.

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