

***Anaplasma phagocytophilum*, Strain HGE2**

**Catalog No. NR-48593**

**For research use only. Not for use in humans.**

**Contributor:**

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**Manufacturer:**

BEI Resources

**Product Description:**

Bacteria Classification: *Anaplasmataceae*, *Anaplasma*

Species: *Anaplasma phagocytophilum*

Strain: HGE2

Original Source: *Anaplasma phagocytophilum* (*A. phagocytophilum*), strain HGE2 was isolated from a human in Minnesota, USA.<sup>1</sup>

Comments: The complete genome of *A. phagocytophilum*, strain HGE2 has been sequenced (GenBank: [LAOE00000000](https://www.ncbi.nlm.nih.gov/nuccore/LAOE00000000)).

*A. phagocytophilum* is a Gram-negative, obligate intracytoplasmic bacteria that infects bone marrow-derived mammalian cells, predominantly of the myeloid lineage.<sup>2</sup> 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.<sup>3</sup> *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).<sup>2,3</sup>

**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 HGE2, 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-48593 was packaged aseptically in 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  $1 \times 10^5$  to  $1 \times 10^6$  cells/mL. Add entire vial to host cells for coinfection.

Incubation: 1 to 5 days at 37°C and 5% CO<sub>2</sub>

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 HGE2, NR-48593.”

**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 (BMBL). Current Edition. Washington, DC: U.S. Government Printing Office.

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**References:**

1. Munderloh, U. G., 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.

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