Mycoplasma Pulmonis (Mp) Antibodies and ELISA Kits

Mycoplasma Pulmonis (Mp) is a pleomorphic gram negative bacteria that causes illness (respiratory mycoplasmosis, **MRM**) primarily in rats and mice, though guinea pigs are susceptible to experimental infection. **Mp is one of the most prevalent pathogenic agents in laboratory colonies of mice and rats.** It primarily colonizes the middle ear and nasopharynx, causing a pneumonia-like illness in its host. M. Pulmonis disseminates widely throughout the host affecting a number of organ systems, thereby rendering infected animals unfit for certain research. Mp infection is a required test performed quarterly or monthly in all animal facilities that use or supply animals for research. Rapid diseases detection and control is necessary to preserve the integrity of research animals. ADI now offers the most sensitive, simple, and rapid ELISA kits for the **detection of Mp antibodies in mouse, rat or g. pig etc**. The ELISA kits are supplied with pre-coated plate sufficient for 96 tests or 480 tests, -ve and +ve controls and all required reagents. ADI Mp antibody ELISA produced results in 105 min at room temp and has a high sensitivity of 1 ng Mp antibody in infected animals.

Assay Procedure: Arrange required number of strips on the plate.

Step 1. Add 100 µl of pre-diluted controls (-Ve, and +ve) and samples (diluted 1:100 or higher) into respective wells. Mix gently and incubate at room temp for 60 mins (25-28oC; no shaking necessary).

Step 2. Aspirate well contents and wash 3X with wash buffer. Add 100 ul of supplied antibody-HRP Conjugate into all wells; mix gently and incubate at RT for 30mins.

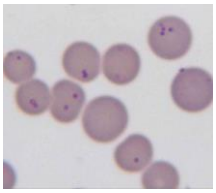
Step 3. Aspirate or wash 5xwith wash buffer. Tap plates over paper towels. Add 100 ul of TMB Substrate. Mix gently and Incubate for 15 min at RT. Blue color develops in positive wells.

Step 4. Add 100 ul of stop solution into each well and mix gently (blue color turns yellow). Measure yellow color at 450 nm. Results are compared to controls and expressed as +ve and –ve.

	Mouse (cat#)	Rat (cat#)	G. pig (cat#)	Human cat#)
Mycoplasma **pulmonis** antibody ELISA kit	AE-310500-1 (96 tests)	AE-310510-1 (96 tests)	AE-3105200-1 (96 tests)	
Mycoplasma **Pneumoniae antibody ELISA Kits**				AE-310530-1 (IgA) AE-310535-1 (IgG) AE-310540-1 (IgM)

	Human	Bovine	Pig	Monkey	Mouse
Mycoplasma **Bovis Anti-PDHB antibody**	990-140-PHG	990-150-PBG	990-160-PPG	990-170-PMG	990-180-PMO

Mycoplasma Pulmonis (Mp) –General Information



Mycoplasma pulmonis is a gram negative bacteria that lack a cell wall around their cell membrane. Mycoplasma species are the smallest bacterial cells yet discovered. Without a cell wall, they are unaffected by many common antibiotics such as penicillin or other beta-lactam antibiotics that target cell wall synthesis. They can be parasitic or saprotrophic. Several species are pathogenic in humans, including M. pneumoniae, which is an important cause of atypical pneumonia and other respiratory disorders, and M. genitalium, which is believed to be involved in pelvic inflammatory diseases. **Mycoplasma Pulmonis** is a pleomorphic bacteria that causes illness (pneumonia) primarily in rats and mice, though guinea pigs are susceptible to experimental infection. It primarily colonizes the middle ear and nasopharynx, causing a pneumonia-like illness in its host. Symptoms may include ruffled fur, reluctance to move, weight loss, and reproductive changes. M. Pulmonis disseminates widely throughout the host affecting a number of organ systems, thereby rendering infected animals unfit for certain research. Over 100 species have been included in the genus Mycoplasma. Mollicutes are parasites or commensals of humans, animals, and plants. The genus Mycoplasma uses vertebrate hosts. The severity of lesions in respiratory tissues and mortality due to MRM appears to be species and strain dependent. C57BL/6 mice are less prone to M. pulmonis infection than C3H/He and DBA/2 mice. Lewis rats are more susceptible to M. pulmonis than F344 rats.

Mycoplasma species are often found in research laboratories as contaminants in cell culture. An estimated 11 to 15% of U.S. laboratory cell cultures are contaminated with mycoplasma. European labs and other countries contamination rates are higher (up to 80%). M. Pulmonis is among the smallest organisms capable of self-replication, being less than 1 µm in size. All members of the mycoplasma genus lack a cell wall making them difficult to eradicate using traditional antibiotics that target cell wall synthesis, such as penicillin. M. Pulmonis has a single, circular 963kb. The bacteria has a membrane that consists of highly adaptable lipoproteins that are used to attach to host cells and for pathogenic invasion. Virulence factors are predicted to be a hemolysin, secreted nucleases, and a glycol-protease. Because M. Pulmonis has limited biosynthetic capabilities, these enzymes are also thought to help it acquire metabolic precursors from its host.

Mycoplasma was first isolated in 1898 from a species that is a bovine pathogen. Mycoplasma pulmonisKb) is among the first organism to have its genome sequenced due to its small size (963.8 kb). The genome contains 782 putative coding sequences (CDSs) with 482 CDS that could have function assigned and 92 CDS that have sequence matched to hypothetical protein. M. pulmonis also have a unique coding in their genome, TGA encodes for tryptophan in Mycoplasma but it is a stop codon for other eubacteria.

To diagnose infection, clinical symptoms may be identified for advanced stage mycoplasmosis. Colony surveillance can be accomplished by immunofluorescent antibody tests (IFA), polymerization chain reaction (PCR), and enzyme-linked immunosorbent assay (ELISA). Culture of M. Pulmonis may be performed, although the organism has slow growth capabilities.

Mycoplasma related antibodies and reagents

Catalog#	Product Description	Product Type
990-140-01N	Human Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG IgG Negative Serum	Disease control sera, M. Bovis
990-1450-02P	Human Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG positive Serum	Disease control sera, M. Bovis
990-150-01N	Bovine Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG IgG Negative Serum	Disease control sera, M. Bovis
990-150-02P	Bovine Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG positive Serum	Disease control sera, M. Bovis
990-160-01N	Pig Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG IgG Negative Serum	Disease control sera, M. Bovis
990-160-02P	Pig Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG positive Serum	Disease control sera, M. Bovis
990-170-01N	Monkey Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG IgG Negative Serum	Disease control sera, M. Bovis
990-170-02P	Monkey Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) IgG positive Serum	Disease control sera, M. Bovis
AE-310500-NC	Mouse Anti-Mycoplasma Pulmonis (Mp) IgG -ve serum	Animal Disease serum control, Rat
AE-310500-PC	Mouse Anti-Mycoplasma Pulmonis (Mp) IgG +ve serum	Animal Disease serum control, Rat
AE-310510-1	Rat Anti-Mycoplasma Pulmonis (Mp) IgG ELISA Kit, 96 tests	Kit
AE-310510-NC	Rat Anti-Mycoplasma Pulmonis (Mp) IgG -ve serum	Animal Disease serum control, rat
AE-310510-PC	Rat Anti-Mycoplasma Pulmonis (Mp) IgG +ve serum	Animal Disease serum control, rat
AE-310520-1	G. pig Anti-Mycoplasma Pulmonis (Mp) IgG ELISA Kit, 96 tests	Kit
AE-310520-NC	G. pig Anti-Mycoplasma Pulmonis (Mp) IgG -ve serum	Animal Disease serum, M. pulmonis
AE-310520-PC	G. pig Anti-Mycoplasma Pulmonis (Mp) IgG +ve serum	Animal Disease serum, M. pulmonis
MPBO11-M	Mouse monoclonal Anti-Mycoplasma bovis IgG	antibodies
MPGE15-M	Mouse monoclonal Anti-Mycoplasma genitalium IgG	antibodies
MPHO14-M	Mouse monoclonal Anti-Mycoplasma hominis, p120 IgG	antibodies
MPP113-M	Mouse monoclonal Anti-Mycoplasma pneumoniae P1 Adhesin IgG	antibodies
MPPN12-A	Anti-Mycoplasma pneumoniae IgG (all antigens)	antibodies
MPUL11-S	Anti-Mycoplasma Pulmonis (Mp) IgG (all antigens)	antibodies
PDHB11-C	Recombinant (E. Coli) Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) Control for Western Blot	
PDHB11-S	Rabbit Anti-Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) Antiserum	
PDHB15-R-10	Recombinant (E. Coli) Pyruvate Dehydrogenase E1 Component Beta (PDHB, Mycoplasma bovis) (his-tag, >95%)	2728|2718|2719|2706|2665|2691

Alpha Diagnostic Intl Inc., USA; **Email**: service@4adi.com; ☎ (800) 786-5777; (210) 561-9515; **Web**: www.4adi.com

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444

Email: customerservice@lifetechindia.com Website: www.lifetechindia.com