



THE ESSENTIALS OF
LIFE SCIENCE RESEARCH
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Agricultural Animal Diseases



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INTRODUCTION

Animal disease outbreaks pose a significant social and economic threat toward human health, the management and veterinary care of farm animals and fish, and the production of animal-based products such as meat, milk, eggs, leather, and wool. To prevent the spread of infectious animal diseases, it is the responsibility of the animal husbandry industry to ensure the health and safety of livestock through routine vaccination and medical care.

To aid in the prevention and treatment of animal disease, ATCC has acquired and authenticated a vast array of pathogenic microbial strains known to cause debilitating or life-threatening illnesses in livestock, including the causative agents of:

- Shipping fever
- Johne's disease
- Foot rot
- Tetanus
- Tuberculosis
- Bluetongue disease
- Avian mycoplasmosis
- Fowlpox
- Redmouth disease
- Furunculosis

Let ATCC help you get your animal disease research moving faster with ATCC Genuine Cultures®! Want to go straight to nucleic acids and skip *in vitro*? ATCC® Genuine Nucleics offers a growing selection of native, synthetic, and quantitative CRM nucleic acids for use in assay development and performance evaluation, such as inclusivity/exclusivity and limits of detection. Please visit us online at www.atcc.org to view a full listing of available products.

AVAILABILITY OF STRAINS

Some of the strains referenced in this guide are not available for international distribution, including organisms known to produce toxins. Visit us online at www.atcc.org to check the availability of specific strains in certain geographical areas. Though each of the following species has been shown to cause disease in animals, ATCC has not tested individual strains for pathogenicity.

ATCC CATTLE STRAINS

With the largest cattle industry in the world, the United States is one of the leading producers of beef products. In fact, the United States Department of Agriculture (USDA) Economic Research Service estimated that the retail equivalent value of the United States beef industry in 2012 was \$85 billion¹. To maintain the profitability of this industry, as well as the production of associated products such as milk and leather, it is imperative that the health and safety of cattle remains a top priority.

To this end, we have put together a brief collection of microorganisms associated with major cattle diseases. These strains are ideal for the development and evaluation of diagnostic assays, preventative treatments, and therapeutics. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
VR-1436™	<i>Anaplasma marginale</i>	South Idaho, USA (S64-Id2AM)	Whole blood from a naturally infected 13 year old Hereford cow from south-central Idaho herd
25936™	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	NADL 1083-2255	
27374™	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	[NCTC 10842]	Brain of sheep fetus
19438™	<i>Campylobacter fetus</i> subsp. <i>venerealis</i>	NCTC 10354 [CIP 6829, X/161/5]	Vaginal mucus of heifer
19412™	<i>Corynebacterium renale</i>	NCTC 7448 [Charita-a, IFO 15290]	Cow
10848™	<i>Corynebacterium renale</i>	5 [NCTC 11140]	Cattle with pyelonephritis, New York
700025™	<i>Histophilus somni</i>	8917974 [H. somnus 1]	Bovine, Michigan
23580™	<i>Leptospira borgpetersenii</i>	Castellon 3	<i>Apodemus sylvaticus</i> , Spain
23481™	<i>Leptospira borgpetersenii</i>	Perepelicin	Bovine, USSR
23470™	<i>Leptospira interrogans</i>	Hond Utrecht IV	Dog, the Netherlands
23476™	<i>Leptospira interrogans</i>	Akiyami A	Human, Japan
23606™	<i>Leptospira interrogans</i>	Moulton	Blood - animal
10898™	<i>Mannheimia haemolytica</i>	B-31(4540)	Sheep
31611™	<i>Mannheimia haemolytica</i>	76-72H (Parent)	Calf lung, Nebraska
33366™	<i>Mannheimia haemolytica</i>	H29	Sheep liver, Davis, CA
43270™	<i>Mannheimia haemolytica</i>		Bovine pneumonia, California
17947™	<i>Moraxella bovis</i>	A164 [36, ATCC 17973, LMG 1006, M. Piechaud 649 (<i>Moraxella duplex</i> subsp. <i>bovis</i>), NCDC KC 746, NCTC 8561; H36, P. Baumann L-10]	Keratitis in cattle
17948™	<i>Moraxella bovis</i>	A165 [NCDC KC 747, NCTC 9425; 4909/53, P. Baumann L-11]	Keratitis in cattle
39503™	<i>Moraxella bovis</i>	Neb-9	Calf with infectious bovine keratoconjunctivitis
43015™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	Linda [CIP 103965]	Ileum of 15-year-old girl with Crohn's disease, Rhode Island.
43544™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	Ben [CIP 103966]	Intestinal tissue of human Crohn's disease patient.
700535™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	97R0816	Mesenteric lymph node extracted at necropsy from a 6-year-old Guernsey cow with a 3-year history of Johne's disease, Oxford, PA, 1997
BAA-968™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	K-10	Animal feces, Wisconsin, United States, July, 1990
19210™	<i>Mycobacterium bovis</i>	18802-887 [NCTC 10772, TMC 410]	Granulomatous lesion in a lymph node of a 6-month-old heifer, Texas.
35733™	<i>Mycobacterium bovis</i>	TMC 1010 [BCG Danish]	Bovine milk
35734™	<i>Mycobacterium bovis</i>	TMC 1011 [BCG Pasteur]	Bovine milk
35737™	<i>Mycobacterium bovis</i>	TMC 1019 [BCG Japanese]	Bovine milk
35743™	<i>Mycobacterium bovis</i>	TMC 1028 [BCG Tice]	Bovine milk
25025™	<i>Mycoplasma bovis</i>	[01]	Bovine mastitic milk
27368™	<i>Mycoplasma bovis</i>	[Madison]	Dairy products
BAA-1113™	<i>Pasteurella multocida</i>	Pm70	Tissue, animal, February, 1995
11039™	<i>Pasteurella multocida</i> subsp. <i>gallicida</i>	X-73, 7256	Domestic fowl

Bacteria (continued)

ATCC® No.	Organism	Designation	Isolation
7228™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	238 [NCTC 1550]	Belgian hare
15742™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	P-1059	Turkey liver
51688™	<i>Pasteurella multocida</i> subsp. <i>septica</i>	NCTC 11619 [MR118100/81]	Human wound, Germany
BAA-600™	<i>Pasteurella multocida</i> subsp. <i>tigris</i>		Human clinical specimen, Rochester Minnesota, United States, 2001

Fungi

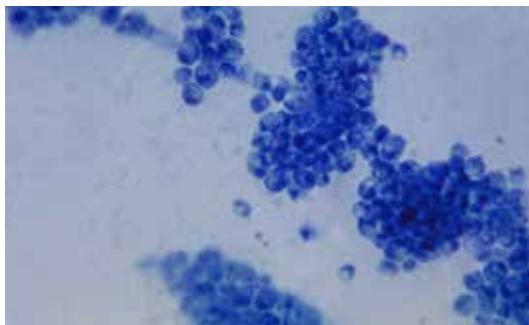
ATCC® No.	Organism	Designation	Isolation
8988™	<i>Absidia corymbifera</i>	217	Peas, Montreal, Quebec, Canada
14058™	<i>Absidia corymbifera</i>	2058 [ATCC 14108]	Human sputum
752™	<i>Candida albicans</i>	Type II	
2091™	<i>Candida albicans</i>	132 [CBS 2730, CIP 1180.79, IFO 1393, NCYC 854]	
14053™	<i>Candida albicans</i>	NIH 3172	Human blood, Bethesda, MD
CRM-10231™	<i>Candida albicans</i>	3147 [CBS 6431, CCY 29-3-106, CIP 48.72, DSM 1386, IFO 1594, NCPF 3179, NCYC 1363, NIH 3147, VTT C-85161]	Man with bronchomycosis
MYA-2876™	<i>Candida albicans</i>	SC5314	Clinical specimen - human
14248™	<i>Cryptococcus gattii</i>	110 [CBS 883]	Skin of patient with blastomycosis
56989™	<i>Cryptococcus gattii</i>	RV 5265	Cerebrospinal fluid, human, Zaire
56992™	<i>Cryptococcus gattii</i>	RV 48370 [S8012]	Human cerebrospinal fluid, China
MYA-4071™	<i>Cryptococcus gattii</i>	WM 276	<i>Eucalyptus tereticornis</i> debris, Australia, 1993
MYA-4093™	<i>Cryptococcus gattii</i>	A1M R265	Bronchial alveolar lavage, Duncan, Vancouver Island, B.C. Canada.
MYA-4560™	<i>Cryptococcus gattii</i>	WM179 [CBS 10078]	Human, Australia
MYA-4877™	<i>Cryptococcus gattii</i>	A6MR38 [CBS 11545]	CSF of immunocompetent human, Oregon, USA
13690™	<i>Cryptococcus neoformans</i>	D	Human cryptococcal meningitis
24067™	<i>Cryptococcus neoformans</i>	52 [52D, CDC B3179]	Human cerebrospinal fluid, Maryland, USA
34877™	<i>Cryptococcus neoformans</i>	NIH 76	Cerebrospinal fluid
36556™	<i>Cryptococcus neoformans</i>	613 [61-11756]	Human spleen and lung
62066™	<i>Cryptococcus neoformans</i>	6	Clinical isolate, France
90112™	<i>Cryptococcus neoformans</i>	7588/9.854 MCV 3 [NCCLS 88]	Cerebrospinal fluid, Pennsylvania
MYA-4566™	<i>Cryptococcus neoformans</i>	WM628 [CBS 10080]	Human, Australia.
755™	<i>Geotrichum candidum</i>	1914 [ATCC 7341]	
10834™	<i>Geotrichum candidum</i>		
12784™	<i>Geotrichum candidum</i>	CBS 175.28	
28747™	<i>Geotrichum candidum</i>	HLX 47	Slime in pulp and paper mill, Canada
9083™	<i>Microsporum gypseum</i>	235 [IFO 5948]	Dermatophytosis of face
14683™	<i>Microsporum gypseum</i>	PCI M-82 [IFO 8231]	
24102™	<i>Microsporum gypseum</i>	VH/3032	15-year-old girl, Canada
16529™	<i>Prototheca wickerhamii</i>	NRRL YB-4330 [UTEX 1553]	Household plumbing, Peoria, IL
30395™	<i>Prototheca wickerhamii</i>	CH-pw 1	Palmar lesions, diabetic human, San Francisco, CA, 1974
10212™	<i>Sporothrix schenckii</i>	NIH 7019	Sporotrichosis
38573™	<i>Sporothrix schenckii</i>	ADRI-306	Ear of dog
201679™	<i>Sporothrix schenckii</i>	JA-2	Human lymphocutaneous tissue, Brazil
18616™	<i>Sporothrix schenckii</i> var. <i>luriei</i>	NCDC B 1040 [CBS 937.72, IMI 139135]	Human cranial infection, South Africa
9533™	<i>Trichophyton mentagrophytes</i>	640 [Emmons 640, NIH 640, QM 248]	Clinical specimen - human, 1943
9972™	<i>Trichophyton mentagrophytes</i>	666 [ATCC 13995, QM 252]	Ringworm of dog
28185™	<i>Trichophyton mentagrophytes</i>	360-A [M1804]	
MYA-4439™	<i>Trichophyton mentagrophytes</i>	MRL 1957	Human toenail, USA
28203™	<i>Trichophyton verrucosum</i>		Generalized dermatomycosis, Algeria

Fungi (continued)

ATCC® No.	Organism	Designation	Isolation
28943™	<i>Trichophyton verrucosum</i>		Man, England
34471™	<i>Trichophyton verrucosum</i>	65	Bull, Poland
10694™	<i>Trichophyton verrucosum</i> var. <i>album</i>	A-8	Favus
36058™	<i>Trichophyton verrucosum</i> var. <i>autotrophicum</i>	[IMI 186973]	Dermatophytosis in Karakul sheep, South Africa
26196™	<i>Trichophyton verrucosum</i> var. <i>discoides</i>	VLO 3980/V.6234	Bovine lesion
10696™	<i>Trichophyton verrucosum</i> var. <i>ochraceum</i>	A-10	

Protists

ATCC® No.	Organism	Designation	Isolation
30957™	<i>Giardia intestinalis</i>	WB	Duodenal aspirate, 30-year-old human male, Bethesda, MD, 1979
50114™	<i>Giardia intestinalis</i>	KS	Human, Philadelphia, PA, 1984
50581™	<i>Giardia intestinalis</i>	GS clone H7	
50803™	<i>Giardia intestinalis</i>	WB clone C6	Clone of strain WB (ATCC® 30957™), 1983
203334™	<i>Giardia intestinalis</i>	D3	Dog, Calgary, Alberta, Canada, 1986
PRA-242™	<i>Giardia lamblia</i>	CM	
PRA-244™	<i>Giardia lamblia</i>	Mario	United States
PRA-247™	<i>Giardia lamblia</i>	DAN	United States
PRA-249™	<i>Giardia lamblia</i>	BE-1	Isolated from beaver by G. Faubert, 1981, Canada.
50843™	<i>Neospora caninum</i>	Nc-1	Dog, USA
50845™	<i>Neospora caninum</i>	Nc-LIV [NC-Liverpool]	5-week-old Boxer puppy, Liverpool, England
75710™	<i>Neospora caninum</i>	BPA1	Brain and/or spinal cord of an aborted bovine fetus
PRA-140™	<i>Neospora caninum</i>	NC-Beef	Animal clinical specimen, Nebraska, United States, 1998
28251™	<i>Pythium insidiosum</i>	N. 279/3 [CDC B-4298]	Foot lesion on horse, <i>Equus caballus</i> , Papua New Guinea
58640™	<i>Pythium insidiosum</i>	H-4 [CBS 577.85, CDC B-4293]	Horse, Costa Rica
200269™	<i>Pythium insidiosum</i>	CDC B-5653	Necrotizing lesions on mouth and eye of 2-year-old boy, Memphis, TN
40050™	<i>Toxoplasma gondii</i>	TS-4	6-year-old male human, Cincinnati, OH, 1939
50174™	<i>Toxoplasma gondii</i>	RH	6-year-old male Human, Cincinnati, OH, 1939
50861™	<i>Toxoplasma gondii</i>	VEG	Human with AIDS, USA
30003™	<i>Tritrichomonas foetus</i>	BP-4: Beltsville	Preputial washings of a bull, <i>Bos bovis</i> , Beltsville, MD, 1956
50151™	<i>Tritrichomonas foetus</i>	KV1/M-100	Derived from KV1, ATCC® 30924™, Vienna, Austria, 1975
50152™	<i>Tritrichomonas foetus</i>	KV1-1MR-100	Derived from KV1, ATCC® 30924™, Prague, Czechoslovakia, 1977
PRA-377™	<i>Trypanosoma brucei brucei</i>	TREU 927/4 (GUTat 10.1)	Clone derived from GPAL/KE/70/EATRO 1534 isolate, tsetse fly, Kenya, 1970
30018™	<i>Trypanosoma congolense</i>	Wellcome FN	Human, Tanganyika, 1933
30017™	<i>Trypanosoma theileri</i>		Animal blood



Bovine mastitis

Bovine mastitis, which is characterized by inflammation of the mammary gland, is a common syndrome among cattle, resulting in enormous economic losses associated with reductions in milk yield and quality. This condition is infectious in nature and can be caused by a variety of bacteria and fungi, including *Candida albicans*, *Prototheca* spp., and *Staphylococcus aureus*. Visit us online at www.atcc.org to view a full listing of strains and nucleic acids that support research on bovine mastitis.

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-187™	Bluetongue virus, type 10	8	Animal tissue, California, 1952
VR-872™	Bluetongue virus, type 11		Sheep, epizootic of bluetongue, Texas, 1962
VR-875™	Bluetongue virus, type 17		Blood from sheep with typical bluetongue disease, Wyoming, 1962
VR-639™	Bovine adenovirus 3	WBR-1	Conjunctiva from a healthy cow
VR-640™	Bovine adenovirus 4	THT/62	Lungs of a calf with pneumoenteritis
VR-248™	Bovine enterovirus Type 1	LCR 4	Stool of healthy cow, Michigan
VR-754™	Bovine enterovirus Type 2	M2	Feces from cattle with febrile respiratory disease
VR-188™	Bovine herpesvirus 1	Los Angeles	
VR-864™	Bovine herpesvirus 1	Colorado-1 [Cooper 1]	Animal clinical specimen, United States
VR-845™	Bovine herpesvirus 2	New York 1	Vesicle on udder of cow with bovine herpes mammillitis
VR-1315™	Bovine leukemia virus	New Bolton Center	BLV-infected cow with persistent lymphocytosis
VR-703™	Bovine papillomavirus	324	Calf fibropapillomas
VR-801™	Bovine papular stomatitis virus	Illinois 721	Esophagus from a bovine calf with debilitating disease, ulcers on esophagus
VR-281™	Bovine parainfluenza virus 3	SF-4	
VR-739™	Bovine parainfluenza virus 3	SB	Nasal swabs from cattle with no disease and no symptoms
VR-985™	Bovine paralytic rabies virus		Brain of bovine with rabies
VR-767™	Bovine parvovirus	Haden	
VR-794™	Bovine respiratory syncytial virus	A 51908	Trachea of calf with respiratory disease
VR-1339™	Bovine respiratory syncytial virus	375	Animal clinical specimen, Ilowa, United States
VR-1485™	Bovine respiratory syncytial virus	Iowa (FS1-1)	Nasal secretions from a herd of Iowa cattle with acute respiratory disease, 1971
VR-392™	Bovine rhinitis B virus	EC-11	Lungs of a specific-pathogen-free Jersey calf
VR-668™	Bovine rhinovirus I	SD-1	Nasal secretion from a calf with rhinitis
VR-1290™	Bovine rotavirus	B223	Feces of diarrheic calf in Iowa
VR-2102™	Bovine rotavirus	WC-3 (R402-10)	Feces, newborn calf with gastroenteritis
VR-534™	Bovine viral diarrhea virus 1	NADL	Spleen of a naturally occurring fatal case of BVD in the closed herd at National Animal Disease Laboratory, Iowa, 1962
VR-1422™	Bovine viral diarrhea virus 1	NADL (biologically cloned)	Animal clinical specimen
VR-1561™	Bovine viral diarrhea virus 1	New York 1	Derived from existing strain

Shipping fever

Bovine respiratory disease, commonly known as “shipping fever”, is the most common problem encountered in feedlot calves. This infectious disease accounts for major economic losses associated with a reduction in feed efficiency, average daily gain, and the performance of beef calves. ATCC offers an assortment of microorganisms known to cause shipping fever, including Bovine viral diarrhea virus, Bovine respiratory syncytial virus, *Mannheimia haemolytica*, and *Pasteurella multocida*.



ATCC SWINE STRAINS

According to the USDA, the United States hog industry has been reportedly shifting toward fewer and larger operations¹. With this change, any major disease outbreaks among swine herds could seriously affect the pork supply. Some of the most common microorganisms affecting swine populations have been provided in the tables below. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
27088™	<i>Actinobacillus pleuropneumoniae</i>	4074 [CCM 5869, HK 405]	Lung of swine, Argentina
27090™	<i>Actinobacillus pleuropneumoniae</i>	S 1421 [CCM 5871, HK 407]	Swine periarticular abscess, Switzerland
33378™	<i>Actinobacillus pleuropneumoniae</i>	M62	Pig with pneumonia, USA
33415™	<i>Actinobacillus suis</i>	CCM 5586 [1276/61, ATCC 49261]	Septicemia in pig
15559™	<i>Actinobacillus suis</i>	1384	Animal blood, Washington District of Columbia, United States
33144™	<i>Actinobaculum suis</i>	50052 [DSM 20639]	Swine cystitis
27412™	<i>Actinobaculum suis</i>	230	Swine udder
35419™	<i>Bacteroides suis</i>	P 38024 [DSM 20612]	
25095™	<i>Mycoplasma hyopneumoniae</i>	[VMRI 11]	Enzootic pneumonia of swine
25617™	<i>Mycoplasma hyopneumoniae</i>	[NCTC 10127, V.PP11]	Swine pneumonia
BAA-1113™	<i>Pasteurella multocida</i>	Pm70	Animal tissue, February, 1995
11039™	<i>Pasteurella multocida</i> subsp. <i>gallicida</i>	X-73, 7256	Domestic fowl
7228™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	238 [NCTC 1550]	Belgian hare
12948™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	P-934 [Type D]	Pig
43137™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	NCTC 10322 [W-9217]	Pig
51688™	<i>Pasteurella multocida</i> subsp. <i>septica</i>	NCTC 11619 [MR118100/81]	Human wound, Germany
BAA-600™	<i>Pasteurella multocida</i> subsp. <i>tigris</i>		Human clinical specimen, Rochester Minnesota, United States, 2001
11729™	<i>Pseudomonas suis</i>	Boynton 201-8	Croupous pneumonia of swine
43765™	<i>Streptococcus suis</i>	NCTC 10234 [735, CCUG 7984, J. Henrichsen S735]	Pig
BAA-853™	<i>Streptococcus suis</i>	P1/7	Animal clinical specimen, 1976

Fungi

ATCC® No.	Organism	Designation	Isolation
752™	<i>Candida albicans</i>	Type II	
2091™	<i>Candida albicans</i>	132 [CBS 2730, CIP 1180.79, IFO 1393, NCYC 854]	
14053™	<i>Candida albicans</i>	NIH 3172	Human blood, Bethesda, MD
CRM-10231™	<i>Candida albicans</i>	3147 [CBS 6431, CCY 29-3-106, CIP 48.72, DSM 1386, IFO 1594, NCPF 3179, NCYC 1363, NIH 3147, VTT C-85161]	Man with bronchomycosis
MYA-2876™	<i>Candida albicans</i>	SC5314	Clinical specimen - human
755™	<i>Geotrichum candidum</i>	1914 [ATCC 7341]	
10834™	<i>Geotrichum candidum</i>		
12784™	<i>Geotrichum candidum</i>	CBS 175.28	
28747™	<i>Geotrichum candidum</i>	HLX 47	Slime in pulp and paper mill, Canada
11832™	<i>Microsporum nanum</i>	[CBS 314.54]	Human scalp
15425™	<i>Microsporum nanum</i>	Pennsylvania [CBS 215.64]	Sow ringworm
10212™	<i>Sporothrix schenckii</i>	NIH 7019	Sporotrichosis
38573™	<i>Sporothrix schenckii</i>	ADRI-306	Ear of dog
201679™	<i>Sporothrix schenckii</i>	JA-2	Human lymphocutaneous tissue, Brazil
18616™	<i>Sporothrix schenckii</i> var. <i>luriei</i>	NCDC B 1040 [CBS 937.72, IMI 139135]	Human cranial infection, South Africa

Protists

ATCC® No.	Organism	Designation	Isolation
40050™	<i>Toxoplasma gondii</i>	TS-4	6-year-old male human, Cincinnati, OH, 1939
50174™	<i>Toxoplasma gondii</i>	RH	6-year-old male Human, Cincinnati, OH, 1939
50611™	<i>Toxoplasma gondii</i>	me49	Unknown
50861™	<i>Toxoplasma gondii</i>	VEG	Human with AIDS, USA
30167™	<i>Tritrichomonas suis</i>	1/N	Pig nose, <i>Sus suis</i> , Ames, IA, 1956
30168™	<i>Tritrichomonas suis</i>	1/S	Pig stomach, <i>Sus suis</i> , Ames, IA, 1956
30170™	<i>Tritrichomonas suis</i>	1/C	Pig caecum, <i>Sus suis</i> , Ames, IA, 1956

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-99™	Influenza A virus (H1N1)	A/Swine/1976/31	Hog in Iowa, 1931
VR-333™	Influenza A virus (H1N1)	A/Swine/Iowa/15/30	Swine in Iowa, 1930
VR-1682™	Influenza A virus (H1N1)	A/Swine/1976/31 (TC-adapted)	Hog in Iowa, 1931.
VR-1683™	Influenza A virus (H1N1)	A/Swine/Iowa/15/30 (TC-adapted)	Derived by adaptation of egg-passage A/Swine/Iowa/15/30 (ATCC VR-333) to MDCK (ATCC® CCL-34™) cells. (Note: ATCC® VR-333™ and ATCC® VR-1683™ have not been compared with respect to sequence or infectivity in chick embryo and tissue culture).
VR-1499™	Porcine cytomegalovirus	Kanitz	Spleen, liver, and kidney homogenate of a pig
VR-670™	Porcine enterovirus 1	PS 34 (SMEDIC)	Intestine from swine fetus
VR-362™	Porcine enterovirus 2	O3b	Brain of 10-day-old pig with signs of polioencephalomyelitis
VR-742™	Porcine parvovirus NADL-2	NADL-2	
VR-2402™	Porcine Reproduction and Respiratory Syndrome Virus (PRRSV) (SIRS)	ISU-P	Isolated from porcine lung tissue, plaque cloned passage 3 (3/4/93)
VR-2332™	Porcine respiratory and reproductive syndrome virus	BIAH-001	Combined tissues obtained from a SIRS infected piglet
VR-2386™	Porcine respiratory and reproductive syndrome virus	ISU-12	Pneumonic pig lungs, United States
VR-2384™	Porcine respiratory coronavirus	AR310	Culture of a novel TGEV-related Porcine Respiratory Coronavirus
VR-893™	Porcine rotavirus	OSU (attenuated)	Animal clinical specimen, Ohio, United States
VR-1362™	Suid herpesvirus 1		
VR-2107™	Suid herpesvirus 1		Derived from wild-type USDA strain S62/26 (Shope)
VR-2203™	Suid herpesvirus 1		
VR-1740™	Transmissible gastroenteritis virus, porcine	Miller (TC-adapted)	This item is derived by adaptation of virus isolated from small intestine of gnotobiotic infected pig (ATCC® VR-743™) to ST cells (ATCC® CRL-1746™) at ATCC.

Respiratory disease in swine

Actinobacillus pleuropneumoniae is a major cause of respiratory disease in swine throughout the world. This bacterium commonly affects young pigs between 8-16 weeks of age, often resulting in severe lung damage that contributes to poor weight gain, future infections, or death. Visit us online at www.atcc.org to find the strains and associated nucleic acids you need to detect and prevent the spread of this organism.



ATCC SHEEP STRAINS

Throughout the world, sheep are raised for meat and wool. Ovine infectious diseases can result in significant economic loss attributed to reduced wool growth and quality, poor growth rates, poor ewe fertility, and reduced value of sale sheep. To protect these resources, ATCC has compiled a collection of microbial species commonly associated with ovine disease. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
VR-1436™	<i>Anaplasma marginale</i>	South Idaho, USA (S64-Id2AM)	Whole blood from a naturally infected 13 year old Hereford cow from south-central Idaho herd
25840™	<i>Brucella ovis</i>	63/290 [NCTC 10512]	Tissue, animal, Australia, 1960
15296™	<i>Campylobacter fetus</i> subsp. <i>fetus</i>		Blood, Baltimore, MD
25936™	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	NADL 1083-2255	
27374™	<i>Campylobacter fetus</i> subsp. <i>fetus</i>	[NCTC 10842]	Brain of sheep fetus
BAA-2539™	<i>Campylobacter fetus</i> subsp. <i>testudinum</i>		Human blood infection, New York, USA, 2003
19438™	<i>Campylobacter fetus</i> subsp. <i>venerealis</i>	NCTC 10354 [CIP 6829, X/161/5]	Vaginal mucus of heifer
9441™	<i>Clostridium tetani</i>	47-S-3 [L.S. McClung 1576]	
10779™	<i>Clostridium tetani</i>	43415 [Harvard strain, L.S. McClung 2012]	
19406™	<i>Clostridium tetani</i>	NCTC 279 [USA II]	
809™	<i>Corynebacterium pseudotuberculosis</i>		Sheep lung, Washington, DC
19410™	<i>Corynebacterium pseudotuberculosis</i>	NCTC 3450 [E 23, IFO 15363]	Infected gland of sheep
43926™	<i>Corynebacterium pseudotuberculosis</i>	169	Ovine lymph node abscess
25549™	<i>Dichelobacter nodosus</i>	VPI 2340 [11342]	Foot rot in sheep
27521™	<i>Dichelobacter nodosus</i>	VPI 5731-1 [198A]	Sheep, New South Wales, Australia
51357™	<i>Fusobacterium necrophorum</i> subsp. <i>funduliforme</i>	JCM 3724 [Fn 524; VPI 6161]	
25286™	<i>Fusobacterium necrophorum</i> subsp. <i>necrophorum</i>	VPI 2891 [2358, JCM 3718]	
27852™	<i>Fusobacterium necrophorum</i> subsp. <i>necrophorum</i>	JCM 3722 [Fn 521; 118]	Foot rot of sheep
51644™	<i>Fusobacterium pseudonecrophorum</i>	JCM 3722 [Fn 521; 118]	Ovine pulmonary abscess
10898™	<i>Mannheimia haemolytica</i>	B-31(4540)	Sheep
29696™	<i>Mannheimia haemolytica</i>	NCTC 10609 [S10R]	Nasopharyngeal mucus of sheep
33365™	<i>Mannheimia haemolytica</i>	H191	Sheep spleen, Davis, CA
33366™	<i>Mannheimia haemolytica</i>	H29	Sheep liver, Davis, CA
33396™	<i>Mannheimia haemolytica</i>	NCTC 9380 [CCUG 12392, J.A. Watt 1266A&B]	Sheep, United Kingdom, 1956
33078™	<i>Moraxella ovis</i>	199/55 [CCUG 354, LMG 8381, NCTC 11227]	Conjunctivitis in sheep's eye
19576™	<i>Moraxella ovis</i>	NO-1 [NCTC 11969, Oslo, Norway 37]	
43015™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	Linda [CIP 103965]	Ileum of 15-year-old girl with Crohn's disease, Rhode Island.
700535™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	97R0816	Mesenteric lymph node extracted at necropsy from a 6-year-old Guernsey cow with a 3-year history of Johne's disease, Oxford, PA, 1997
BAA-968™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	K-10	Animal feces, Wisconsin, United States, July, 1990
BAA-1113™	<i>Pasteurella multocida</i>	Pm70	Animal tissue, February, 1995
BAA-1909™	<i>Pasteurella multocida</i>	Pm70	Oviduct of chicken exhibiting fowl cholera, Texas, USA, 1976
11039™	<i>Pasteurella multocida</i> subsp. <i>gallicida</i>	X-73, 7256	Domestic fowl
7228™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	238 [NCTC 1550]	Belgian hare

Bacteria (continued)

ATCC® No.	Organism	Designation	Isolation
15742™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	P-1059	Turkey liver
43137™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	NCTC 10322 [W-9217]	Pig
51688™	<i>Pasteurella multocida</i> subsp. <i>septica</i>	NCTC 11619 [MR118100/81]	Human wound, Germany
BAA-600™	<i>Pasteurella multocida</i> subsp. <i>tigris</i>		Human clinical specimen, Rochester Minnesota, United States, 2001

Fungi

ATCC® No.	Organism	Designation	Isolation
14248™	<i>Cryptococcus gattii</i>	110 [CBS 883]	Skin of patient with blastomycosis
56989™	<i>Cryptococcus gattii</i>	RV 5265	Cerebrospinal fluid, human, Zaire
56992™	<i>Cryptococcus gattii</i>	RV 48370 [S8012]	Human cerebrospinal fluid, China
MYA-4071™	<i>Cryptococcus gattii</i>	WM 276	Eucalyptus tereticornis debris, Australia, 1993
MYA-4093™	<i>Cryptococcus gattii</i>	A1M R265	Bronchial alveolar lavage, Duncan, Vancouver Island, B.C. Canada.
MYA-4560™	<i>Cryptococcus gattii</i>	WM179 [CBS 10078]	Human, Australia
MYA-4877™	<i>Cryptococcus gattii</i>	A6MR38 [CBS 11545]	CSF of immunocompetent human, Oregon, USA
13690™	<i>Cryptococcus neoformans</i>	D	Human cryptococcal meningitis
24067™	<i>Cryptococcus neoformans</i>	52 [52D, CDC B3179]	Human cerebrospinal fluid, Maryland, USA
34877™	<i>Cryptococcus neoformans</i>	NIH 76	Cerebrospinal fluid
36556™	<i>Cryptococcus neoformans</i>	613 [61-11756]	Human spleen and lung
62066™	<i>Cryptococcus neoformans</i>	6	Clinical isolate, France
90112™	<i>Cryptococcus neoformans</i>	7588/9.854 MCV 3 [NCCLS 88]	Cerebrospinal fluid, Pennsylvania
MYA-4565™	<i>Cryptococcus neoformans</i>	WM626 [CBS 10084]	Human, Australia.

Protists

ATCC® No.	Organism	Designation	Isolation
50843™	<i>Neospora caninum</i>	Nc-1	Dog, USA
75710™	<i>Neospora caninum</i>	BPA1	Brain and/or spinal cord of an aborted bovine fetus
PRA-140™	<i>Neospora caninum</i>	NC-Beef	Animal clinical specimen, Nebraska, United States, 1998
40050™	<i>Toxoplasma gondii</i>	TS-4	6-year-old male human, Cincinnati, OH, 1939
50174™	<i>Toxoplasma gondii</i>	RH	6-year-old male Human, Cincinnati, OH, 1939
50861™	<i>Toxoplasma gondii</i>	VEG	Human with AIDS, USA

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-187™	Bluetongue virus, type 10	8	Animal tissue, California, 1952
VR-872™	Bluetongue virus, type 11		Sheep, epizootic of bluetongue, Texas, 1962
VR-875™	Bluetongue virus, type 17		Blood from sheep with typical bluetongue disease, Wyoming, 1962
VR-1343™	Ovine adenovirus 5	RTS-42	Nasal secretions from lamb, USA
VR-1340™	Ovine adenovirus 6	RTS-151	Nasal secretions from lamb, USA
VR-1342™	Ovine parainfluenza virus 3	DH-1	Lung of sheep with severe pneumonia

Ovine foot rot

Foot rot, also known as pododermatitis, is a contagious hoof infection commonly found in cattle and sheep. In sheep, this infection is initially caused by the bacterial species *Fusobacterium necrophorum*, followed by a secondary infection with *Dichelobacter nodosus*. If left untreated, the sheep may become lame. To aid in the prevention and detection of this disease, ATCC offers a number of associated strains isolated from animal sources. To order these strains, please visit our website at www.atcc.org.



ATCC HORSE STRAINS

In an agricultural setting, working animals, such as horses, are often used for transport, herding, or as harness animals. To help protect horses against microbial infection, we have compiled a collection of common equine pathogens for use in infectious disease research. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
9346™	<i>Actinobacillus equuli</i> subsp. <i>equuli</i>	31331 [AMC 44-3038]	Young foal with glomerular nephritis and septicemia
9347™	<i>Actinobacillus equuli</i> subsp. <i>equuli</i>	31399 [AMC 44-3036]	Young foals with glomerular nephritis and septicemia
19392™	<i>Actinobacillus equuli</i> subsp. <i>equuli</i>	NCTC 8529 [C.108, CCUG 2041, CIP 103284, JCM 2432, LMG 3736, PM 30/53]	Animal blood
13371™	<i>Actinobacillus lignieresii</i>	KC 214 [20198]	
13372™	<i>Actinobacillus lignieresii</i>	FM	Bovine
13373™	<i>Actinobacillus lignieresii</i>	517 [ATCC 14938]	Animal tissue
13374™	<i>Actinobacillus lignieresii</i>	4222	Ovine
19393™	<i>Actinobacillus lignieresii</i>	NCTC 4976 [CM 2]	Typical bovine lesion
3540™	<i>Clostridium novyi</i>	15197 [L.S. McClung 1967]	
19402™	<i>Clostridium novyi</i>	NCTC 538 [Jolly]	Gas gangrene
25758™	<i>Clostridium novyi</i>	VPI 5273-1	Sheep
3630™	<i>Clostridium perfringens</i>	6510 [A.J. Wilsdon type D, strain RI, L.S. McClung 1992]	
9081™	<i>Clostridium perfringens</i>	13942 [L.S. McClung 1988]	Wound infection, New Orleans
12919™	<i>Clostridium perfringens</i>	NCTC 8678 [167/51, CIP 106515]	Feces
9441™	<i>Clostridium tetani</i>	47-S-3 [L.S. McClung 1576]	
10779™	<i>Clostridium tetani</i>	43415 [Harvard strain, L.S. McClung 2012]	
19406™	<i>Clostridium tetani</i>	NCTC 279 [USA II]	
25576™	<i>Moraxella equi</i>	Hug 68	Eye of horse
6939™	<i>Rhodococcus equi</i>	NCTC 1621 [ATCC 25729, NRRL B-16538]	Lung abscess of foal
10146™	<i>Rhodococcus equi</i>	AMC 87A-113 [NRRL B-16539]	Lung of foal
21387™	<i>Rhodococcus equi</i>	[NCIB 11161]	
33701™	<i>Rhodococcus equi</i>	1	Horse lung, Guelph, Ontario, Canada
9527™	<i>Streptococcus equi</i> subsp. <i>equi</i>	2-1-22	Submaxillary abscess of foal with strangles
9528™	<i>Streptococcus equi</i> subsp. <i>equi</i>	2-1-23	Submaxillary abscess of foal with strangles
33398™	<i>Streptococcus equi</i> subsp. <i>equi</i>	NCTC 9682	
39506™	<i>Streptococcus equi</i> subsp. <i>equi</i>	SE071780	Equine abscess
35246™	<i>Streptococcus equi</i> subsp. <i>zooepidemicus</i>	C74-63	Dead pig, China
39920™	<i>Streptococcus equi</i> subsp. <i>zooepidemicus</i>	HA-116	Nitrosoguanidine-induced mutant of clinical isolate HA-100
43079™	<i>Streptococcus equi</i> subsp. <i>zooepidemicus</i>	NCDO 1358 [NCTC 4676, S34]	Bovine mastitis, England

Fungi

ATCC® No.	Organism	Designation	Isolation
7909™	<i>Absidia corymbifera</i>		
14058™	<i>Absidia corymbifera</i>	2058 [ATCC 14108]	Human sputum
14248™	<i>Cryptococcus gattii</i>	110 [CBS 883]	Skin of patient with blastomycosis
56989™	<i>Cryptococcus gattii</i>	RV 5265	Cerebrospinal fluid, human, Zaire
56992™	<i>Cryptococcus gattii</i>	RV 48370 [S8012]	Human cerebrospinal fluid, China
MYA-4071™	<i>Cryptococcus gattii</i>	WM 276	Eucalyptus tereticornis debris, Australia, 1993
MYA-4093™	<i>Cryptococcus gattii</i>	A1M R265	Bronchial alveolar lavage, Duncan, Vancouver Island, B.C. Canada.
MYA-4560™	<i>Cryptococcus gattii</i>	WM179 [CBS 10078]	Human, Australia
MYA-4877™	<i>Cryptococcus gattii</i>	A6MR38 [CBS 11545]	CSF of immunocompetent human, Oregon, USA

Fungi (continued)

ATCC® No.	Organism	Designation	Isolation
13690™	<i>Cryptococcus neoformans</i>	D	Human cryptococcal meningitis
24067™	<i>Cryptococcus neoformans</i>	52 [52D, CDC B3179]	Human cerebrospinal fluid, Maryland, USA
34877™	<i>Cryptococcus neoformans</i>	NIH 76	Cerebrospinal fluid
36556™	<i>Cryptococcus neoformans</i>	613 [61-11756]	Human spleen and lung
62066™	<i>Cryptococcus neoformans</i>	6	Clinical isolate, France
90112™	<i>Cryptococcus neoformans</i>	7588/9.854 MCV 3 [NCCLS 88]	Cerebrospinal fluid, Pennsylvania
MYA-4565™	<i>Cryptococcus neoformans</i>	WM626 [CBS 10084]	Human, Australia.
28380™	<i>Emericella nidulans</i>	AU-1-A.Nid	Equine guttural pouch mycosis, Alabama
96921™	<i>Emericella nidulans</i>	SRRC 330 [CBS 288.95, IMI 370083]	
MYA-3632™	<i>Emericella nidulans</i>	AN1	Human biopsy (lung), United States
755™	<i>Geotrichum candidum</i>	1914 [ATCC 7341]	
10834™	<i>Geotrichum candidum</i>		
28747™	<i>Geotrichum candidum</i>	HLX 47	Slime in pulp and paper mill, Canada
58332™	<i>Histoplasma capsulatum</i> var. <i>farcininosum</i>	CDC B-3786 [902.5, CBS 536.84]	Horse with epizootic lymphangitis, Egypt
58333™	<i>Histoplasma capsulatum</i> var. <i>farcininosum</i>	CDC B-3787 [2806, CBS 537.84]	Horse with epizootic lymphangitis, Egypt
58334™	<i>Histoplasma capsulatum</i> var. <i>farcininosum</i>	CDC B-3788 [2803, CBS 538.84]	Horse with epizootic lymphangitis, Egypt
58335™	<i>Histoplasma capsulatum</i> var. <i>farcininosum</i>	CDC B-3789 [2801, CBS 539.84]	Horse with epizootic lymphangitis, Egypt
60358™	<i>Histoplasma capsulatum</i> var. <i>farcininosum</i>	85-1610	Horse, India
64702™	<i>Papulaspora equi</i>	[CBS 573.89]	Eye of horse, Alabama
10212™	<i>Sporothrix schenckii</i>	NIH 7019	Sporotrichosis
38573™	<i>Sporothrix schenckii</i>	ADRI-306	Ear of dog
201679™	<i>Sporothrix schenckii</i>	JA-2	Human lymphocutaneous tissue, Brazil
18616™	<i>Sporothrix schenckii</i> var. <i>luriei</i>	NCDC B 1040 [CBS 937.72, IMI 139135]	Human cranial infection, South Africa
12544™	<i>Trichophyton equinum</i>	CDC B-56	
12545™	<i>Trichophyton equinum</i>	CDC B-57	
22443™	<i>Trichophyton equinum</i> var. <i>autotrophicum</i>	IMI 133568 [H10]	Horse, New Zealand
26365™	<i>Trichophyton equinum</i> var. <i>equinum</i>	CBS 856.71	Horse hair, the Netherlands
9533™	<i>Trichophyton mentagrophytes</i>	640 [Emmons 640, NIH 640, QM 248]	Clinical specimen - human, 1943
9972™	<i>Trichophyton mentagrophytes</i>	666 [ATCC 13995, QM 252]	Ringworm of dog

Clostridial myonecrosis in horses

Clostridium perfringens is an important cause of enteritis and enterocolitis in foals. In severe cases, toxins produced by the invading bacteria can cause a condition termed Clostridial myonecrosis, which is characterized by necrosis, putrefaction of tissues, and gas production. To support your research on *C. perfringens*, ATCC offers an assortment of strains and associated toxins. Visit us online at www.atcc.org to learn more.



Protists

ATCC® No.	Organism	Designation	Isolation
PRA-145™	<i>Besnoitia bennetti</i>	Donkey 1	Animal clinical specimen, Florida, United States, August 13, 2004
28251™	<i>Pythium insidiosum</i>	N. 279/3 [CDC B-4298]	Foot lesion on horse, <i>Equus caballus</i> , Papua New Guinea
58640™	<i>Pythium insidiosum</i>	H-4 [CBS 577.85, CDC B-4293]	Horse, Costa Rica
58643™	<i>Pythium insidiosum</i>	H-9 [CBS 574.85, CDC B-4296]	Horse, Costa Rica
90586™	<i>Pythium insidiosum</i>	CDC B-5469 [380481]	Patient with spider bite on ankle, San Antonio, TX
200269™	<i>Pythium insidiosum</i>	CDC B-5653	Necrotizing lesions on mouth and eye of 2-year-old boy, Memphis, TN
30019™	<i>Trypanosoma equiperdum</i>	NIH kinetoplastic	
30023™	<i>Trypanosoma equiperdum</i>	NIH dyskinetoplastic	1903
30822™	<i>Trypanosoma equiperdum</i>		Derived from ATCC® 30019™, 1977

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-700™	Equid herpesvirus 1	Kentucky D (KYD)	Animal clinical specimen
VR-701™	Equine herpesvirus 2	LK	Throat swab from a horse with upper respiratory disease
VR-2230™	Equid herpesvirus 4	405/76	Aborted equine fetus, Australia
VR-796™	Equine arteritis virus	Bucyrus	Animal clinical specimen, Kentucky, United States
VR-778™	Equine infectious anemia virus	Wyoming	Blood from horse with typical equine infectious anemia disease
VR-317™	Influenza A virus (H3N8)	A/Equine/2/Miami/1/63	Nasal washings from a thoroughbred horse
VR-70™	Western equine encephalitis virus		Brain of horse, California, 1930

ATCC BISON STRAINS

Currently, bison are predominantly raised as livestock for meat production. In the past several decades, this consumer-driven industry has expanded with sales exceeding \$280 million annually in the United States². Bison infectious diseases can result in significant economic loss attributed to fetal abortions, infertility, and decreased viability. Here, we have put together a brief collection of microorganisms associated with major bison diseases. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
VR-1436™	<i>Anaplasma marginale</i>	South Idaho, USA (S64-Id2AM)	Whole blood from a naturally infected 13 year old Hereford cow from south-central Idaho herd
10898™	<i>Mannheimia haemolytica</i>	B-31(4540)	Sheep
31611™	<i>Mannheimia haemolytica</i>	76-72H (Parent)	Calf lung, Nebraska
43270™	<i>Mannheimia haemolytica</i>		Bovine pneumonia, California
43015™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	Linda [CIP 103965]	Ileum of 15-year-old girl with Crohn's disease, Rhode Island.
43544™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	Ben [CIP 103966]	Intestinal tissue of human Crohn's disease patient.
BAA-968™	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i>	K-10	Animal feces, Wisconsin, United States, July, 1990
19210™	<i>Mycobacterium bovis</i>	18802-887 [NCTC 10772, TMC 410]	Granulomatous lesion in a lymph node of a 6-month-old heifer, Texas.
35733™	<i>Mycobacterium bovis</i>	TMC 1010 [BCG Danish]	Bovine milk
35734™	<i>Mycobacterium bovis</i>	TMC 1011 [BCG Pasteur]	Bovine milk
35737™	<i>Mycobacterium bovis</i>	TMC 1019 [BCG Japanese]	Bovine milk
35743™	<i>Mycobacterium bovis</i>	TMC 1028 [BCG Tice]	Bovine milk
25025™	<i>Mycoplasma bovis</i>	[01]	Bovine mastitic milk
27368™	<i>Mycoplasma bovis</i>	[Madison]	Dairy products
BAA-1113™	<i>Pasteurella multocida</i>	Pm70	Animal tissue, February, 1995
11039™	<i>Pasteurella multocida</i> subsp. <i>gallicida</i>	X-73, 7256	Domestic fowl
7228™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	238 [NCTC 1550]	Belgian hare
51687™	<i>Pasteurella multocida</i> subsp. <i>septica</i>	NCTC 11995 [Souchard]	Human abscess after a cat bite, France
BAA-600™	<i>Pasteurella multocida</i> subsp. <i>tigris</i>		Human clinical specimen, Rochester Minnesota, United States, 2001

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-187™	Bluetongue virus, type 10	8	Animal tissue, California, 1952
VR-872™	Bluetongue virus, type 11		Sheep, epizootic of bluetongue, Texas, 1962
VR-875™	Bluetongue virus, type 17		Blood from sheep with typical bluetongue disease, Wyoming, 1962
VR-534™	Bovine viral diarrhea virus 1	NADL	Spleen of a naturally occurring fatal case of BVD in the closed herd at National Animal Disease Laboratory, Iowa, 1962
VR-1422™	Bovine viral diarrhea virus 1	NADL (biologically cloned)	Animal clinical specimen
VR-1561™	Bovine viral diarrhea virus 1	New York 1	Derived from existing strain

Bluetongue disease

Bluetongue disease is a vector-borne viral disease of ruminants such as sheep, cattle, and bison. This non-contagious disease, which is caused by Bluetongue virus (BTV), results in high fever, cyanosis and swelling of the tongue, and excessive salivation, often resulting in high mortality. Visit us online at www.atcc.org to view the different BTV types ATCC has to offer.



ATCC POULTRY STRAINS

The United States poultry industry is one of the world's largest producers of poultry meat and eggs, with over 43 billion pounds of meat and 90 billion eggs produced annually¹. Avian infectious diseases can often result in major economic losses in this industry due to significant medical costs and a reduction in viability and egg production. Some of the most common microorganisms affecting poultry populations have been provided in the tables below. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
29975™	<i>Avibacterium paragallinarum</i>	W	
29976™	<i>Avibacterium paragallinarum</i>	17756	
VR-122™	<i>Chlamydophila psittaci</i>	Meningopneumonitis strain Francis	Ferret inoculated with human material, 1934
VR-351™	<i>Chlamydophila psittaci</i>	Ornithosis strain Texas Turkey [strain Texas turkey]	Turkey spleen, Texas
27769™	<i>Clostridium colinum</i>	72097	Chicken with ulcerative colitis
27770™	<i>Clostridium colinum</i>	72042	Chicken with ulcerative colitis
700737™	<i>Mycobacterium avium</i>	LM49 [CDC 83-484]	Human tissue, Maryland, United States, 1983
700898™	<i>Mycobacterium avium</i>	MAC 101	Human blood, 1983
15769™	<i>Mycobacterium avium</i> subsp. <i>avium</i>	1982 [McKee 1]	Spleen of a tuberculous hen
19074™	<i>Mycobacterium avium</i> subsp. <i>avium</i>	SSC 317	Sputum, South Carolina Dept. of Health and Environmental Control
19075™	<i>Mycobacterium avium</i> subsp. <i>avium</i>	SSC 320	Cervical lymph gland
25291™	<i>Mycobacterium avium</i> subsp. <i>avium</i>	Vet. 1387 [SSC 1336, TMC 724]	Liver of diseased hen
15302™	<i>Mycoplasma gallisepticum</i>	[S6]	Brain of turkey with torticollis
19610™	<i>Mycoplasma gallisepticum</i>	[NCTC 10115, PG 31, X95]	Suspension of tracheal and airsac tissues of chickens with chronic respiratory disease.
25294™	<i>Mycoplasma meleagridis</i>	[17529]	Turkey sinus
27764™	<i>Mycoplasma meleagridis</i>	1300	Turkey air sac
25204™	<i>Mycoplasma synoviae</i>	WVU 1853 [NCTC 10124]	Hock joint of chicken
BAA-1113™	<i>Pasteurella multocida</i>	Pm70	Animal tissue, February, 1995
BAA-1909™	<i>Pasteurella multocida</i>	Pm70	Oviduct of chicken exhibiting fowl cholera, Texas, USA, 1976
11039™	<i>Pasteurella multocida</i> subsp. <i>gallicida</i>	X-73, 7256	Domestic fowl
12945™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	P-931 [Type A]	Fowl
15742™	<i>Pasteurella multocida</i> subsp. <i>multocida</i>	P-1059	Turkey liver
51688™	<i>Pasteurella multocida</i> subsp. <i>septica</i>	NCTC 11619 [MR118100/81]	Human wound, Germany
BAA-600™	<i>Pasteurella multocida</i> subsp. <i>tigris</i>		Human clinical specimen, Rochester Minnesota, United States, 2001
9184™	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Gallinarum</i>		
10398™	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Pullorum</i>	OAC-27	Poultry
19945™	<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Pullorum</i>	X-12	

Fungi

ATCC® No.	Organism	Designation	Isolation
1022™	<i>Aspergillus fumigatus</i>	NRRL 163 [118, CBS 133.61, IMI 16152, LSHB Ac71, NCTC 982, QM 1981, WB 163]	Lung of chicken, Connecticut
13073™	<i>Aspergillus fumigatus</i>	5233 [NIH 5233]	Human pulmonary lesion, Maryland
MYA-3626™	<i>Aspergillus fumigatus</i>	T33439	California, United States
MYA-3627™	<i>Aspergillus fumigatus</i>	FG 1432	Jacksonville Tennessee, United States
752™	<i>Candida albicans</i>	Type II	
2091™	<i>Candida albicans</i>	132 [CBS 2730, CIP 1180.79, IFO 1393, NCYC 854]	
14053™	<i>Candida albicans</i>	NIH 3172	Human blood, Bethesda, MD
CRM-10231™	<i>Candida albicans</i>	3147 [CBS 6431, CCY 29-3-106, CIP 48.72, DSM 1386, IFO 1594, NCPF 3179, NCYC 1363, NIH 3147, VTT C-85161]	Man with bronchomycosis
MYA-2876™	<i>Candida albicans</i>	SC5314	Clinical specimen - human
11094™	<i>Microsporum gallinae</i>	CDC A-7	
12108™	<i>Microsporum gallinae</i>	CDC A-929	Child's scalp, Puerto Rico
22243™	<i>Microsporum gallinae</i>	CDC X843 [1291]	Lesion on head of chicken, Brazil

Protists

ATCC® No.	Organism	Designation	Isolation
30002™	<i>Trichomonas gallinae</i>	AG (Amherst)	Pigeon, <i>Columba livia</i> , Amherst, MA, 1956
30095™	<i>Trichomonas gallinae</i>	DP3 of Jones Barn (JB)	Wild squab, Westown, PA, 1943
30096™	<i>Trichomonas gallinae</i>	SL substrain of DP3	Pigeon, <i>Columba livia</i> , Washington, DC, Zoological Park, 1959

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-21™	Avian coronavirus	M41	
VR-22™	Avian coronavirus	Egg-adapted (Michigan State Univ. Repos. Code 42)	Specimen from chicks with naturally occurring disease, New Jersey, 1935
VR-817™	Avian coronavirus	Connecticut A5968	Trachea from 2-week-old chick with mild respiratory distress, Connecticut
VR-841™	Avian coronavirus	Arkansas 99	Trachea of chicken with respiratory rales, Arkansas
VR-229™	Fowlpox virus	FH [Beaudette, FH 2755]	Typical fowlpox scabs from combs of chickens in New Jersey prior to 1928
VR-250™	Fowlpox virus	C	Chicken, Kentucky, 1950
VR-251™	Fowlpox virus	A2223	Chicken with mouth and wattle lesions, Illinois, 1960
VR-478™	Infectious bursal disease virus	S 40747	Liver from chicken with infectious bursal disease (mild)

Avian mycoplasmosis

Mycoplasma respiratory infections caused by *Mycoplasma gallisepticum*, *Mycoplasma meleagridis*, and *Mycoplasma synoviae* are a common problem among poultry. These bacterial strains cause severe infections including chronic respiratory disease and infectious sinusitis, resulting in major economic losses associated with decreased egg production, hatchability, and chick viability. Visit us online at www.atcc.org to find the strains and associated nucleic acids you need to detect and prevent the spread of mycoplasma. For information on how these strains can affect cell cultures, visit our mycoplasma quality control page at www.atcc.org/mycoplasmacrms.



ATCC FISH STRAINS

Aquaculture is the production of aquatic animals and plants under controlled conditions; in the United States, the value of this industry is currently estimated to be worth nearly \$1 billion¹. Currently, the farming of fish for food production is the most common form of aquaculture. To aid in the prevention and treatment of infectious fish diseases, we have put together a collection of common fish pathogens in the tables below. For additional strains, visit ATCC online at www.atcc.org.

Bacteria

ATCC® No.	Organism	Designation	Isolation
7965™	<i>Aeromonas salmonicida</i>	NCTC 7812 [CDC 3054-60, NRC 493, RH 251]	
33659™	<i>Aeromonas salmonicida</i> subsp. <i>achromogenes</i>	NCMB 1110 [6263/4/5]	Trout, <i>Salmo trutta</i>
10801™	<i>Aeromonas salmonicida</i> subsp. <i>achromogenes</i>	16	Trout ulcer, West Virginia
27013™	<i>Aeromonas salmonicida</i> subsp. <i>masoucida</i>	1-a-1 [ICPB 4306]	Masou, <i>Oncorhynchus</i> sp.
33658™	<i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i>	NCMB 1102 [19291, 20]	Salmon, <i>Salmo salar</i>
14174™	<i>Aeromonas salmonicida</i> subsp. <i>salmonicida</i>	866 [CDC 960-60, CDC-RH 39, NCMB 833]	Diseased brook trout
49393™	<i>Aeromonas salmonicida</i> subsp. <i>smithia</i>	CCM 4103 [138; AS20/1/1, LMG 20223]	Ulcer on <i>Rutilus rutilus</i> , United Kingdom
49395™	<i>Aeromonas salmonicida</i> subsp. <i>smithia</i>	CCM 4105	Ulcer on <i>Rutilus rutilus</i> , United Kingdom
15947™	<i>Edwardsiella tarda</i>	CDC 1483-59 [ATCC 23656, DSM 13696, K349, NCTC 10396]	Feces, human
23685™	<i>Edwardsiella tarda</i>	NCDC 1958/64 [618-87, ATCC 15948, NCTC 10397]	Feces, human
14472™	<i>Mycobacterium chelonae</i>	30 [380, Magnusson 921]	Sputum, South Carolina Dept. of Health and Environmental Control
19235™	<i>Mycobacterium chelonae</i>	SN 281 (Smooth) [ATCC 23000, ATCC 23013, Lausanne 2411]	Gastric lavage
35752™	<i>Mycobacterium chelonae</i>	TMC 1544 [Friedmann]	Tortoise
35931™	<i>Mycobacterium fortuitum</i> subsp. <i>acetamidolyticum</i>	NCH E11620	Human sputum, Japan
43266™	<i>Mycobacterium fortuitum</i> subsp. <i>acetamidolyticum</i>	E 12159	Sputum, Japan
6841™	<i>Mycobacterium fortuitum</i> subsp. <i>fortuitum</i>	[TMC 1529]	Cold abscess
9820™	<i>Mycobacterium fortuitum</i> subsp. <i>fortuitum</i>	NCTC 1542	Fish tubercle
927™	<i>Mycobacterium marinum</i>	[TMC 1218]	Fish, Philadelphia, PA
11564™	<i>Mycobacterium marinum</i>	X	Human elbow lesion
29254™	<i>Mycobacterium marinum</i>	Gilley	Cutaneous lesions
BAA-535™	<i>Mycobacterium marinum</i>	M [Moffett Hospital #975973]	Tissue samples of human lesions, approximately 1992, Clinical Lab, Moffett Hospital, University of California, San Francisco
VR-1361™	<i>Piscirickettsia salmonis</i>	F-89	Animal clinical specimen, Chile, 1989
33209™	<i>Renibacterium salmoninarum</i>	Lea-1-74 [IFO 15589, NCMB 2235]	Yearling chinook salmon, <i>Oncorhynchus tshawytscha</i> , Leaburg Hatchery, Oregon
33739™	<i>Renibacterium salmoninarum</i>	81-10B-E-BK [NCMB 2196]	Brook trout, <i>Salvelinus fontinalis</i> , Wyoming
29177™	<i>Streptococcus iniae</i>	BU [CIP 105804]	Amazon freshwater dolphin, <i>Inia geoffrensis</i> , Buffalo, NY.
29178™	<i>Streptococcus iniae</i>	PW	Amazon freshwater dolphin, <i>Inia geoffrensis</i> , Buffalo, NY.
29473™	<i>Yersinia ruckeri</i>	CDC 2396-61 [NCIMB 2194]	Rainbow trout, <i>Oncorhynchus mykiss</i> , with red mouth disease, USA.
29908™	<i>Yersinia ruckeri</i>	CDC 4535-69	Kidneys of moribund fish

Fungi

ATCC® No.	Organism	Designation	Isolation
11399™	<i>Achlya ambisexualis</i>	CBS 101.50	Lake, Illinois
11400™	<i>Achlya ambisexualis</i>	[CBS 100.50, DSM 952]	
22599™	<i>Achlya americana</i>		Dead beetle floating on puddle of water, Maryland
14565™	<i>Achlya americana</i>	Y5 [VKM F-1789]	Forest soil, North Carolina
11398™	<i>Achlya bisexualis</i>	CBS 102.50	Lake, England
14524™	<i>Achlya bisexualis</i>	T5 (female) [CBS 101.62]	Pond water, New York
62773™	<i>Achlya caroliniana</i>	1/17A	Soil, New Mexico
52604™	<i>Achlya conspicua</i>	LC3	Rice seed and field soil, Louisiana
16111™	<i>Achlya diffusa</i>	[VKM F-1914]	Soil baited with hempseed, Maryland
96597™	<i>Achlya diffusa</i>	NJM 9207	Rice field, Japan
22408™	<i>Achlya echinulata</i>	[VKM F-1913]	Lake water, Argentina
14566™	<i>Achlya flagellata</i>	X2e	Creek, North Carolina
42608™	<i>Achlya flagellata</i>		Hempseed, North Carolina
16939™	<i>Achlya heterosexualis</i>	B14 (male) [APCC 1509b, IMI 344326, VKM F-1794]	Lake water, New York
34019™	<i>Achlya heterosexualis</i>	8-6	
48635™	<i>Achlya hypogyna</i>		
66593™	<i>Achlya intricata</i>	1029-A	
66594™	<i>Achlya intricata</i>	1029-B	
200319™	<i>Achlya klebsiana</i>	NJM9408	Snakehead, <i>Channa striatus</i> , Myanmar
52605™	<i>Achlya klebsiana</i>	LK 6	Rice seed, Louisiana
200317™	<i>Achlya prolifera</i>	NJM9117	Corydora catfish, <i>Corydoras</i> sp., Tokyo, Japan
201047™	<i>Achlya prolifera</i>	NJM 8505	Pond water, Gifu, Japan
11392™	<i>Achlya racemosa</i>	CBS 108.35 [APCC 1002g, IMI 344330]	Wet soil, United Kingdom
16088™	<i>Achlya recurva</i>	[VKM F-1792]	Soil, Frederick Co., MD
52874™	<i>Achlya</i> sp.	B3	Pond, Canada
52878™	<i>Achlya</i> sp.	B7	Pond, Canada
66864™	<i>Saprolegnia anisospora</i>	CBS 178.44	Pond, the Netherlands
66860™	<i>Saprolegnia asterophora</i>	CBS 180.44	Forest pond, the Netherlands
38487™	<i>Saprolegnia australis</i>	N7619	Rainbow trout fingerling
42060™	<i>Saprolegnia australis</i>	795	Soil, Skelly, <i>Coregonus lavaretus</i>
66861™	<i>Saprolegnia crustosa</i>	CBS 281.38	
66862™	<i>Saprolegnia delica</i>	CBS 343.62 [IMI 268369]	<i>Salmo clarki</i> , Montana
66863™	<i>Saprolegnia delica</i>	CBS 345.62 [IMI 266323]	<i>Salmo gardneri</i> , Kansas
36147™	<i>Saprolegnia diclina</i>	LIC10	Fish, England
56854™	<i>Saprolegnia diclina</i>	FBA F7	Brown trout, <i>Salmo trutta</i> , England
66853™	<i>Saprolegnia eccentrica</i>	CBS 211.35	
26116™	<i>Saprolegnia ferax</i>	47-15a	Pond water, California
46240™	<i>Saprolegnia ferax</i>	NT-S-5	Hemp seed, India
36192™	<i>Saprolegnia hypogyna</i>	N54	Water, England
52721™	<i>Saprolegnia hypogyna</i>	806	Water, England
66854™	<i>Saprolegnia laponica</i>	CBS 284.38 [IMI 266320]	
66866™	<i>Saprolegnia litoralis</i>	CBS 306.37 [IMI 268366]	
34563™	<i>Saprolegnia megasperma</i>	369 A	Freshwater nematode, <i>Neomesomermis flumenalis</i> , Newfoundland, Canada
66855™	<i>Saprolegnia mixta</i>	CBS 307.37 [IMI 268367]	
46241™	<i>Saprolegnia parasitica</i>	NTL-S-6	Fish, India
22284™	<i>Saprolegnia parasitica</i>	2-27-59	Channel catfish, Christiansburg, VA, USA
MYA-399™	<i>Saprolegnia salmonis</i>	NJM 9851	Sockeye salmon, <i>Oncorhynchus nerka</i> , Hokkaido, Japan
38488™	<i>Saprolegnia shikotsuensis</i>	SANK 23 177	Caudal fin of kokanee salmon
11393™	<i>Saprolegnia</i> sp.	CBS	

Fungi (continued)

ATCC® No.	Organism	Designation	Isolation
66857™	<i>Saprolegnia subterranea</i>	CBS 278.52	Drainage muck, New York
66858™	<i>Saprolegnia terrestris</i>	CBS 308.37	Soil in fern gully, Australia
66865™	<i>Saprolegnia turfosa</i>	CBS 313.81	Water, Germany
66859™	<i>Saprolegnia unispora</i>	CBS 213.35	

Protists

ATCC® No.	Organism	Designation	Isolation
50194™	<i>Chilodonella uncinata</i>	ATCC:0189:1	Contaminant of <i>Euplates gracilis</i> culture, ATCC 50191, 1988
PRA-256™	<i>Chilodonella uncinata</i>	Green	Czerniakowskie Lake, Warsaw, Poland, June 2003.
PRA-257™	<i>Chilodonella uncinata</i>	Blue	Czerniakowskie Lake, Warsaw, Poland, June 2003.
50329™	<i>Spironucleus barkhanus</i>		Blood of seawater pen-reared chinook salmon, <i>Oncorhynchus tshawytscha</i> , Sechelt area, British Columbia, Canada, 1992
50377™	<i>Spironucleus barkhanus</i>	NOR-1	Muscle abscess in Atlantic salmon, <i>Salmo salar</i> , Vesteraalen, Northern Norway
50467™	<i>Spironucleus barkhanus</i>	Tt-1	

Viruses

ATCC® No.	Organism	Designation	Isolation
VR-714™	Infectious Haematopoietic Necrosis Virus	Chinook salmon	Homogenate of whole fry, Chinook salmon (<i>Oncorhynchus tshawytscha</i>)
VR-1392™	Infectious Haematopoietic Necrosis Virus	039-82 (WRAC)	Isolated in 1982 by R. Busch from tissues of moribund juvenile rainbow (<i>Salmo gairdneri</i>) trout from a trout farm (Hagerman Valley, Idaho, USA)
VR-299™	Infectious pancreatic necrosis virus	LWVRT 60-1	Rainbow trout (<i>Salmo gairdneri</i>), West Virginia, 1960
VR-1318™	Infectious pancreatic necrosis virus	SP	Trout
VR-1322™	Infectious pancreatic necrosis virus	Canada 1 (C1)	Trout
VR-342™	Lymphocystis disease virus	Leetown NFH	Largemouth bass (<i>Micropterus salmoides</i>), West Virginia, 1959
VR-1390™	Spring Viremia of Carp Virus	Reference strain	Tissues of diseased common carp
VR-1387™	Viral hemorrhagic septicemia virus	Makah	Isolated by R. Brunson from ovarian fluid of normal adult coho salmon returning in 1988 to the Makah National Fishery, WA
VR-1388™	Viral hemorrhagic septicemia virus	07-71	Isolated from tissues of diseased rainbow trout (<i>Salmo gairdneri</i>) fingerlings reared in 1971 in Hericourt en Caux, France
VR-1389™	Viral hemorrhagic septicemia virus	F1 (Egtved virus)	Isolated by M. Jensen from tissues of diseased rainbow trout (<i>Salmo gairdneri</i>) fingerlings reared in 1962 near Egtved, Denmark

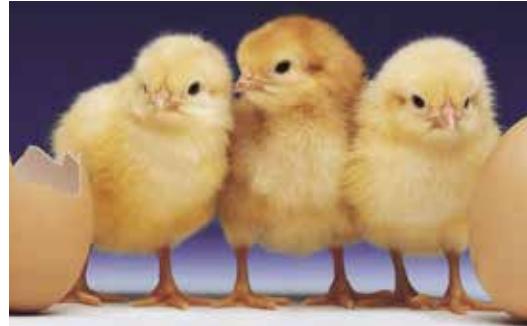


Fungal fish infections

Saprolegnia and *Achyla* species are opportunistic pathogens that have been found to infect injured fish and compromised fish eggs. Infection with these freshwater moulds is often fatal due to complications associated with cellular necrosis and hemodilution. To support research on these fungal pathogens, ATCC offers over 15 species representative of these genera. Visit us online at www.atcc.org to learn more.

REFERENCES

- United States Department of Agriculture (USDA) Economic Research Service (ERS). www.ers.usda.gov.
- National Bison Association. www.bisoncentral.com.



See our online catalog at www.atcc.org/AnimalDiseases for a full description of each item.

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