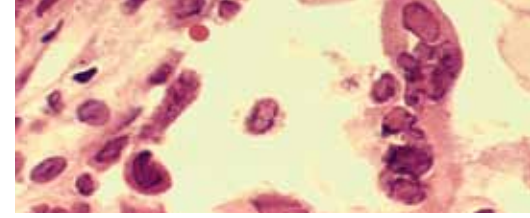
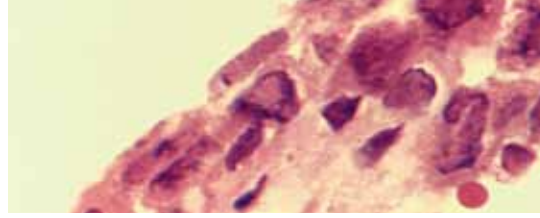


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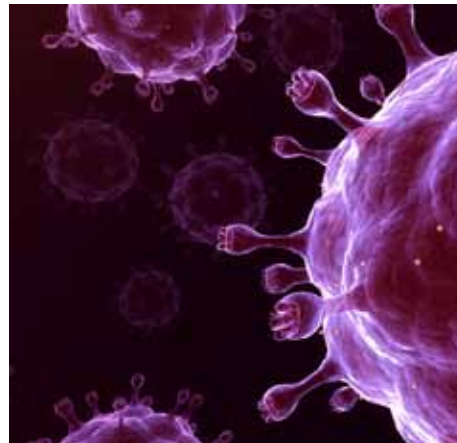
RESOURCES FOR VIROLOGY

ATCC established the Virology Collection in 1958 to support research and development in the growing field of virology. Today, the Animal Virology Collection includes over two thousand viruses, chlamydiae, rickettsiae, nucleic acids, monoclonal antibodies, neutralizing antisera and cloned viral genomes.

A small selection of the virology products that are available from a wide range of taxonomic groups are highlighted in this brochure. For the complete collection see our online catalog at www.atcc.org or contact our technical services department at tech@atcc.org for help in finding the products you need.

ATCC offers:

- Over 2,000 human and animal viruses
- Chlamydiae and rickettsiae
- Nucleic acids from animal viruses and chlamydia
- Monoclonal antibodies
- Antisera to animal viruses
- Molecularly cloned viral genomes
- Cell line hosts



NEW PRODUCTS

New Viruses

New viruses recently added to the Animal Virology Collection include a low passage human influenza A virus (H1N1), a low passage human cytomegalovirus isolate from Wales, the “Merlin” strain, and recent clinical isolates of 2009 H1N1 influenza virus. We have also expanded our influenza offerings by adapting many important strains to tissue culture. A tissue culture (TC)-adapted porcine transmissible gastroenteritis virus is now available as well.

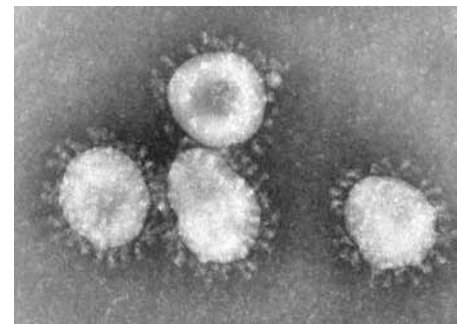
Agent	Strain	ATCC® No.	Significance
Human echovirus 4	Strain: Pesascek	VR-1734™	
Human herpesvirus 5 (HCMV)	Merlin	VR-1590™	Fully-sequenced, GenBank® no. AY446894
Human influenza A virus (H1N1)	A/Virginia/ATCC1/2009	VR-1736™	2009 H1N1 (tissue culture isolated)
Human influenza A virus (H1N1)	A/Virginia/ATCC2/2009	VR-1737™	2009 H1N1 (tissue culture isolated)
Human influenza A virus (H1N1)	A/Virginia/ATCC3/2009	VR-1738™	2009 H1N1 (tissue culture isolated)
Human influenza A virus (H1N1)	A/Fort Monmouth/1/47	VR-1754™	Low passage
Human influenza B virus	TC-adapted B/Taiwan/2/62	VR-1735™	TC-adapted
Porcine transmissible gastroenteritis virus	TC-adapted Miller	VR-1740™	TC- adapted

RESPIRATORY PATHOGENS

Respiratory pathogens associated both with mild upper respiratory tract infections (adenoviruses, rhinovirus, parainfluenza, and coronavirus) and with more severe illnesses (influenza and respiratory syncytial virus) are also available.

Coronavirus

Agent	Strain	ATCC® No.
Human coronavirus Group 1B	229E	VR-740™
Human coronavirus Group 2	TC-adapted OC43	VR-1558™
Canine coronavirus	CCV-TN229	VR-2068™



Coronavirus image courtesy of Dr. Fred Murphy, CDC.

Orthomyxovirus

According to CDC, in the 2007-2008 influenza season approximately 71% of the influenza viruses circulating in the U.S. were influenza A. Of those influenza A strains that were typed, 26% were influenza A (H1) and 74% were influenza A (H3) viruses. The other 29% of influenza viruses circulating were influenza B strains. Past isolates from these groups are available from ATCC. Tissue culture-adapted influenza viruses are also available.

Influenza Viruses

Agent	Strain	ATCC® No.
Human influenza A virus (H1N1)	A/New Jersey/8/76	VR-897™
Human influenza A virus (H1N1)	A/Denver/1/57	VR-546™
Human influenza A virus (H1N1)	A/PR/8/34	VR-95™
Human influenza A virus (H1N1)	TC-adapted A/PR/8/34	VR-1469™
Human influenza A virus (H1N1)	TC-adapted A/WS/33	VR-1520™
Human influenza A virus (H3N2)	A/Victoria/3/75	VR-822™
Human influenza A virus (H3N2)	A/Aichi/2/68	VR-547™
Human influenza A virus (H3N2)	A/Hong Kong/8/68	VR-544™
Human influenza A virus (H3N2)	TC-adapted A/Aichi/2/68	VR-1680™
Human influenza A virus (H3N2)	TC-adapted A/Hong Kong/8/68	VR-1679™
Human influenza B virus	B/Hong Kong/5/72	VR-823™
Human influenza B virus	B/Brigit	VR-786™
Human influenza B virus	B/Maryland/1/59	VR-296™
Human influenza B virus	Egg-adapted B/Lee/40	VR-101™
Human influenza B virus	TC-adapted B/Lee/40	VR-1535™



Paramyxoviruses and Rhinoviruses

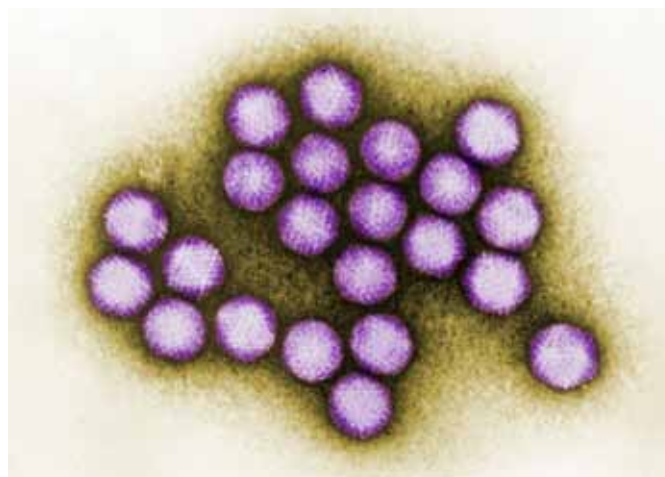
ATCC also has a diverse group of rhinoviruses encompassing 100 different type viruses, as well as numerous parainfluenza and respiratory syncytial viruses.

Agent	Strain	ATCC® No.
Human parainfluenza virus 1	C35	VR-94™
Human parainfluenza virus 2	Greer	VR-92™
Human parainfluenza virus 3	C 243	VR-93™
Bovine parainfluenza virus 3	Shipping Fever	VR-281™
Human respiratory syncytial virus	A-2	VR-1540™
Human respiratory syncytial virus	Long	VR-26™
Human respiratory syncytial virus	RSV 9320	VR-955™
Human respiratory syncytial virus	RSV B Wash/18537	VR-1580™
Human rhinovirus 14	1059	VR-284™
Human rhinovirus 16	11757	VR-283™
Sendai virus (parainfluenza 1)	Sendai/Cantell	VR-907™

Adenoviruses

ATCC has over 50 different human adenovirus types including ATCC® VR-1516™, Human Adenovirus C type 5, which is adenovirus reference material, and ATCC VR-1616™ Recombinant Adeno-associated Virus 2 Reference Standard Stock (rAAV2 RSS). Both items were deposited and are distributed on behalf of the Adenovirus Reference Material Working Group (ARMWG). ATCC also has polyclonal anti-adenovirus antibodies deposited by NIAID.

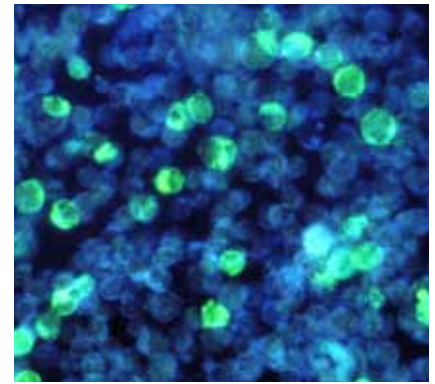
Human Adenovirus Type	Strain	Agent ATCC® No.	Antibody ATCC® No.
HAdV-A type 12	Huie	VR-863™	VR-1089AS/RB
HAdV-B type 3	GB	VR-3™	VR-1080AS/RB
HAdV-B type 7	Gomen	VR-7™	
HAdV-C type 1	Adenoid 71	VR-1™	VR-1078AS/RB
HAdV-C type 2	Adenoid 6	VR-846™	VR-1079AS/RB
HAdV-C type 5	Adenoid 75	VR-5™	
HAdV-D type 8	Trim	VR-1604™	VR-1085AS/RB
HAdV-E type 4	RI-67	VR-1572™	VR-1081AS/RB
HAdV-F type 40	Dugan	VR-931™	
Adenovirus type 5	Adenovirus type 5 Reference Material	VR-1516™	
Recombinant Adeno-associated virus 2	Recombinant Adeno-associated Virus 2 Reference Standard Stock (rAAV2 RSS)	VR-1616™	



Adenovirus image courtesy of Dr. Gary William, Jr., CDC.

OTHER HUMAN AND ANIMAL VIRUSES

Agent	Strain	ATCC® No.
Adeno-associated virus 2	H	VR-680™
Feline calicivirus	F-9	VR-782™
Human coxsackievirus B4	J.V.B	VR-184™
Human coxsackievirus B5	Faulkner	VR-185™
Monkey cytomegalovirus	68-1	VR-677™
Chimpanzee encephalomyocarditis virus	EMC (TC-adapted)	VR-129B™
Hepatitis A virus	HM 175/18f	VR-1402™
Human herpesvirus 1	F	VR-733™
Human herpesvirus 1	HF	VR-260™
Human herpesvirus 1	KOS	VR-1493™
Human herpesvirus 1	MacIntyre	VR-539™
Murid herpesvirus 1	Smith MSGV	VR-1399™
Human herpesvirus 2	G	VR-734™
Human herpesvirus 2	MS	VR-540™
Human herpesvirus 3	Ellen	VR-1367™
Human herpesvirus 4 deposited as Epstein-Barr virus	B95-8	VR-1492™
Murid herpesvirus 4	WUMS	VR-1465™
Human herpesvirus 5	AD-169	VR-538™
Human virus herpes 5	Davis	VR-807™
Human herpesvirus 5	Towne	VR-977™
Human herpesvirus 6	SF	VR-1480™
Human herpesvirus, recombinant	GHSV-UL46	VR-1544™
Hybrid Moloney/Amphotropic murine leukemia virus	4070A envelope	VR-1450™
Human measles virus	Edmonston	VR-24™
Minute virus of mice	Prototype (p)	VR-1346™
Human mumps virus	Enders	VR-106™
Human poliovirus 2 (attenuated)	W-2	VR-301™
Human BK polyomavirus		VR-837™
JC polyomavirus	MAD-4	VR-1583™
Human rotavirus	Wa (TC-adapted)	VR-2018™
Simian rotavirus	SA-11	VR-1565™
Human rubella virus	RA27/3	VR-1359™
Bovine viral diarrhea virus	NADL	VR-1422™

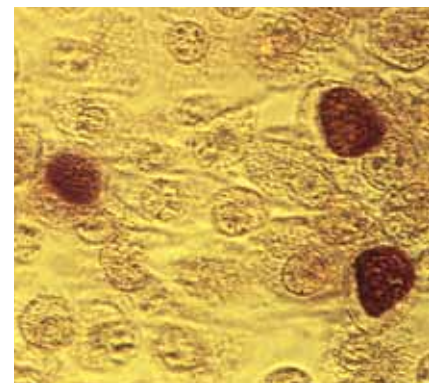


Epstein-Barr virus in leukemia cells image courtesy of Dr. Paul M. Feorino, CDC.

CHLAMYDIAE

Below is a small selection of the many ATCC intra-cellularly grown chlamydiae strains that are available.

Agent	Strain	ATCC® No.
<i>Chlamydia trachomatis</i>	Serovar G	VR-878™
<i>Chlamydia trachomatis</i>	Serovar D	VR-885™
<i>Chlamydia trachomatis</i>	Serovar H	VR-879™
<i>Chlamydia trachomatis</i>	LGV Type 2	VR-902B™
<i>Chlamydia trachomatis</i>	Serovar E	VR-348B™
<i>Chlamydia trachomatis</i>	Serovar I	VR-880™
<i>Chlamydia trachomatis</i>	LGV Type 1	VR-901B™
<i>Chlamydia trachomatis</i>	Serovar F	VR-346™
<i>Chlamydia trachomatis</i>	Serovar K	VR-887™
<i>Chlamydomydia pneumoniae</i>	2043	VR-1355™
<i>Chlamydomydia pneumoniae</i>	AR-39	53592™
<i>Chlamydomydia pneumoniae</i>	CM-1	VR-1360™
<i>Chlamydomydia pneumoniae</i>	CWL-029	VR-1310™
<i>Chlamydomydia pneumoniae</i>	TW-183	VR-2282™



Chlamydia trachomatis image courtesy of Dr. E. Arum and Dr. N. Jacobs, CDC.

NUCLEIC ACIDS FROM VIRUSES AND CHLAMYDIAE

Nucleic acids from viruses and chlamydiae—including viral and bacterial genomic material in the form of DNA from infected cells or allantoic fluid—are now available. The package size is 100 µl per vial, dilutable ten fold or more for amplification.

Source Virus	Source Strain	ATCC® No.	Significance
Human adenovirus 1	Adenoid 71	VR-1D	Species C
Human adenovirus 2	Adenoid 6	VR-846D	Species C
Human adenovirus 3	GB	VR-847D	Species B
Human adenovirus 4	RI-67	VR-1572D	Species E
Human adenovirus 5	Adenoid 75	VR-5D	Species C
Human adenovirus 6	Tonsil 99	VR-6D	Species C
Human adenovirus 7	Gomen	VR-7D	Species B
Human adenovirus 8	Trim	VR-1604D	Species D
Human adenovirus 11	Slobitski	VR-12D	Species B
Human adenovirus 12	Huie	VR-863D	Species A
Human adenovirus 14	de Wit	VR-15D	Species B
Human adenovirus 31	1315/63	VR-1109D	Species A
Human adenovirus 35	Holden	VR-718D	Species B
Human adenovirus 37	GW (76-19026)	VR-929D	Species D
Human adenovirus 40	Dugan	VR-931D	Species F
Human adenovirus 41	Tak (73-3544)	VR-930D	Species F
Human adenovirus 51	Bom	VR-1603D	Species D
<i>Chlamydia trachomatis</i>	BOUR	VR-348BD	Serovar E
<i>Chlamydia trachomatis</i>	UW-3/Cx	VR-885D	Serovar D
<i>Chlamydia trachomatis</i>	UW-36/Cx	VR-886D	Serovar J
<i>Chlamydia trachomatis</i>	UW-43/Cx	VR-879D	Serovar H
<i>Chlamydia trachomatis</i>	UW-57/Cx	VR-878D	Serovar G
<i>Chlamydoxiphila pneumoniae</i>	AR-39	53592D	
<i>Chlamydoxiphila pneumoniae</i>	CM-1	VR-1360D	
Human herpesvirus 1	KOS	VR-1493D	HSV-1
Human herpesvirus 1	MacIntyre	VR-539D	HSV-1
Human herpesvirus 2	G	VR-734D	HSV-2
Human herpesvirus 2	MS	VR-540D	HSV-2
Human herpesvirus 3	Ellen	VR-1367D	VZV
Human herpesvirus 5	AD-169	VR-538D	Viral genome has been sequenced
Human herpesvirus 5	Towne	VR-977D	HCMV
Koi herpesvirus	F347	VR-1592D	Recent isolate from the United Kingdom
Human influenza A virus (H1N1)	A/Virginia/ATCC1/2009	VR-1736D	2009 H1N1
Human influenza A virus (H1N1)	A/Virginia/ATCC2/2009	VR-1737D	2009 H1N1
Human influenza A virus (H1N1)	A/Virginia/ATCC3/2009	VR-1738D	2009 H1N1
Swine influenza A virus (H1N1)	A/Swine/1976/31	VR-1682D	H1N1
Swine influenza A virus (H1N1)	A/Swine/Iowa/15/30	VR-1683D	H1N1
Human influenza A virus (H3N2)	A/Aichi/2/68	VR-1680D	H3N2
Human respiratory syncytial virus	18537	VR-1580D	
Human respiratory syncytial virus	A-2	VR-1540D	
Human respiratory syncytial virus	Long	VR-26D	
Vaccinia virus	MVA	VR-1508D	Attenuated vaccine strain, viral genome has been sequenced
Vaccinia virus	WR (NIH TC-adapted)	VR-1354D	

MONOCLONAL ANTIBODIES

Monoclonal antibodies useful for detection and characterization of Dengue virus, influenza A virus and West Nile virus have been recently added to the Animal Virology Collection.

Description	Agent	ATCC® No.
Monoclonal antibody Clone E12	Dengue Virus Type 1	VR-3206
Monoclonal antibody Clone E13	Dengue Virus Type 1	VR-3207
Monoclonal antibody Clone E18	Dengue Virus Type 1	VR-3209
Monoclonal antibody Clone E24	Dengue Virus Type 1	VR-3212
Monoclonal antibody Clone E29	Dengue Virus Type 1	VR-3214
Monoclonal antibody Clone E31	Dengue Virus Type 1	VR-3216
Monoclonal antibody Clone E32	Dengue Virus Type 1	VR-3217
Monoclonal antibody Clone E55	Dengue Virus Type 1	VR-3224
Monoclonal antibody 1F7	Avian Influenza A virus (H5N1)	VR-1608
Monoclonal antibody 6D5	Avian Influenza A virus (H5N1)	VR-1609
Monoclonal antibody 3D3	Avian Influenza A virus (H7N7)	VR-1641
Monoclonal antibody 1D8	Avian Influenza A virus (H9N2)	VR-1642
Monoclonal antibody Clone E18	West Nile virus	VR-1611
Monoclonal antibody Clone E24	West Nile virus	VR-1612
Monoclonal antibody Clone E34	West Nile virus	VR-1613
Monoclonal antibody Clone E58	West Nile virus	VR-1614
Monoclonal antibody Clone E101	West Nile virus	VR-1640
Monoclonal antibody Clone E114	West Nile virus	VR-1617
Monoclonal antibody Clone E121	West Nile virus	VR-1618
Monoclonal antibody Clone 22-NS1	West Nile virus	VR-1621

ANTISERA TO ANIMAL VIRUSES

Description	ATCC® No.
Coxsackievirus A7 (NIAID V-010-501-563)	VR-1012AS/MK
Coxsackievirus A17 (NIAID V-020-501-563)	VR-1023AS/MK
Coxsackievirus A21 (NIAID V-024-501-563)	VR-1029AS/MK
Echovirus 9 (NIAID V-042-501-560)	VR-1050AS/HO
Echovirus 11 (NIAID V-044-501-560)	VR-1052AS/HO
California encephalitis ascitic fluid	VR-1213AF
Japanese encephalitis virus (NIAID V-537-701-562)	VR-1259AF
Russian spring-summer encephalitis (NIAID V-558-701-562)	VR-1264AF
St. Louis encephalitis control fluid	VR-1265CAF
St. Louis encephalitis ascitic fluid	VR-1265AF
Eastern equine encephalitis ascetic fluid (NIAID V-515-701-562)	VR-1242AF
Venezuelan equine encephalitis (NIAID V-532-701-562)	VR-1249AF
Western equine encephalitis ascitic fluid (NIAID V-521-701-562)	VR-1251AF
Influenza A (NIAID V-301-501-552)	VR-1289
Murine leukemia virus (polyclonal) (FrMuLV)	VR-1537AS-Gt
Poliovirus 1 (NIAID V-001-501-563)	VR-1000AS/MK
Poliovirus 2 (NIAID V-002-501-563)	VR-1002AS/MK
Powassan control ascitic (NIAID V-518-411-562)	VR-1262CAF
Powassan ascitic fluid (NIAID V-518-711-562)	VR-1262AF
Rhinovirus 8 (NIAID V-128-501-558)	VR-1118AS/GP
Rhinovirus 14 (NIAID V-103-501-558)	VR-1124AS/GP
Rhinovirus 16 (NIAID V-105-501-558)	VR-1126AS/GP
Rhinovirus 31 (NIAID V-111-501-558)	VR-1141AS/GP
Sindbis ascitic fluid (NIAID V-560-701-562)	VR-1248AF

MOLECULARLY CLONED VIRAL GENOMES

Plasmids containing full-length clones of human papilloma virus, hepatitis viruses, simian virus 40, and other viral genomes are included in our online catalog of animal viruses at www.atcc.org.

Description	Designation	ATCC® No.
Self-inactivating lentivirus vector (HIV-1)	LentiLox 3.7 (pL3.7)	VRMC-39
Molecular clone of human papillomavirus type 52	pCD15	VRMC-29
Molecular clone of JC polyomavirus	pCY/cl1	VRMC-1
Molecular clone of JC polyomavirus type 8A	pJCPNG-Ag	VRMC-24
Molecular clone of human rhinovirus 14	pWR3.26	VRMC-7
Molecular clone of Simian virus 40 (SV-40)	pUCSVH388-2	VRMC-10

CELL LINE HOSTS

ATCC cell lines include *in vitro* hosts for the propagation of viruses.

Host Organism	Cell Line Name	ATCC® No.
<i>Bos taurus</i>	BT	CRL-1390™
<i>Canis familiaris</i>	MDCK (NBL-2)	CCL-34™
<i>Cercopithecus aethiops</i>	BS-C-1	CCL-26™
<i>Cercopithecus aethiops</i>	BSC40	CRL-2761™
<i>Cercopithecus aethiops</i>	CV-1	CCL-70™
<i>Cercopithecus aethiops</i>	Vero	CCL-81™
<i>Homo sapiens</i>	Chang C	CCL-20.2™
<i>Homo sapiens</i>	HCT-8	CCL-224™
<i>Homo sapiens</i>	HeLa	CCL-2™
<i>Homo sapiens</i>	H1-HeLa	CRL-1958™
<i>Homo sapiens</i>	HEp-2	CCL-23™
<i>Homo sapiens</i>	KB	CCL-17™
<i>Homo sapiens</i>	MRC-5	CCL-171™
<i>Homo sapiens</i>	WI-38	CCL-75™
<i>Lepomis macrochirus</i>	BF-2	CCL-91™
<i>Macaca mulatta</i>	LLC-MK2 original	CCL-7™
<i>Macaca mulatta</i>	LLC-MK2 derivative	CCL-7.1™
<i>Mesocricetus auratus</i>	BHK21	CCL-10™
<i>Mus musculus</i>	McCoy	CRL-1696™
<i>Oncorhynchus mykiss</i>	RTG-2	CCL-55™
<i>Oncorhynchus tshawytscha</i>	CHSE-214	CRL-1681™



ATCC can help you achieve cell culture success. See our Web site at www.atcc.org for our full line of cell culture media, sera, and reagents.

CUSTOM SERVICES

With over 85 years of experience in the culture and characterization of more than 2,700 virus and 3,600 animal cell lines, ATCC has the experience, knowledge and methodologies to support your biological production needs. We can grow and authenticate nearly any animal cell or virus using standard production techniques or one specifically tailored to a particular virus (chicken eggs).

Examples include:

- Viral preparations with high titers for use in vaccine challenge studies or viral-clearance assays
- Inactivated pathogens for use as immunogens
- Cell line preparations with over 10¹⁰ cells per lot for use in cell-based-assay screens
- DNA and RNA isolations from ATCC cultures

To discuss your specific needs, or for more information, please contact ATCC BioServices: atccbioservices@atcc.org

To recommend strains for ATCC to acquire, or if you have strains you would like to deposit into the Animal Virology Collection, please contact us at tech@atcc.org.

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

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Cover top image of *Herpes simplex* virus courtesy of Dr. Edwin P. Ewing, Jr., CDC, Atlanta, GA.

Cover bottom middle image of Novel flu isolate courtesy of Cynthia Goldsmith, CDC, Atlanta, GA.