INDEX

A
Adenovirus(es), canine, 799–805. See also Canine adenoviruses (CAVs).
American Pet Products Manufacturers Association, 756
Anemia, feline leukemia virus and, 886–887
Antech Diagnostics, 757
Antibody(ies)
  rabies virus–specific, in animals rabies diagnosis, 858
  virus-neutralizing, feline leukemia virus infection and, 887
Antibody detection methods, in diagnostic investigation of emerging viruses in companion animals, 764–766
Antigen detection methods, in diagnostic investigation of emerging viruses in companion animals, 766–767
ArboNET system, 757

B
Banfield, 757
Borna disease virus, in dogs and cats, 873–875
  control of, 875
  described, 873
  diagnosis of, 875
  experimental disease, 874
  gross and histologic pathology findings in, 874–875
  natural disease, 874
  prevention of, 875
  surveillance data, 873

C
Caliciviridae, described, 775
Calicivirus, feline. See Feline calicivirus.
Calicivirus family, genera in, 775
Canine adenoviruses (CAVs), 799–805
  cause of, 799–800
  history of, 799–800
  ICH, 800–802
  infectious tracheobronchitis, 802–805.
  See also Infectious tracheobronchitis.
  types of, 799
Canine distemper virus (CDV), 787–797
  cause of, 787–788
  clinical signs of, 789–792
  diagnosis of, 792–793
  epidemiology of, 788–789
  pathologic findings in, 789–792
  prevention of, 793
  treatment of, 793
  vaccines for, 909–911
Canine herpesvirus (CHV), 805–808
  cause of, 805
  clinical signs of, 805–806
  diagnosis of, 808
  epidemiology of, 805
  latency and, 807
  neonatal mortality associated with, 806
  pathogenesis of, 805–806
  pathologic findings in, 807–808
  reproductive disorders and, 805
  respiratory disease associated with, 806–807
  treatment of, 808
  vaccination for, 808
Canine infectious respiratory disease complex, CRCoV as emerging pathogen in, 815–825. See also Canine respiratory coronavirus (CRCoV).
Canine influenza virus (CIV), 827–835
  clinical presentations of, 830–831
  control of, 834
  described, 827
  diagnostics of, 832–834
  historical aspects of, 827–830
  management of, 834
  pathologic findings in, 831
  virology of, 831–832
Canine parvovirus 1, 838–839
  antemortem testing for, 838–839
  clinical signs of, 838–839
  gross and histologic pathology findings in, 839
  origin of, 838

Note: Page numbers of article titles are in boldface type.
Canine (continued)
prevention of, 839
strains of, 838
treatment of, 839

Canine parvovirus 2, 839–844
antemortem testing for, 840–841
challenges related to, 843–844
clinical pathologic findings in, 840
clinical signs of, 840
evolution of, 843–844
gross and histologic pathology findings in, 841–843
in cats, 844
origin of, 839–840
prevention of, 843
strains of, 839–840
treatment of, 843

Canine respiratory coronavirus (CRCoV), 815–825
clinical signs of, 820
described, 815–816
diagnosis of, 821–822
epidemiology of, 816–820
in respiratory tract, presence of, 822–823
origins of, 816
pathogenesis of, 820
prevention of, 822
treatment of, 822

Canine retroviruses, future developments in, 894–895

Cat(s). See also Feline.
canine parvovirus 2 in, 844
parvovirus infection in, 844–847. See also Feline panleukopenia.
rabies in, 854
viral encephalitides in, emerging, 863–878. See also Viral encephalitides, emerging, in dogs and cats.

CAVs. See Canine adenoviruses (CAVs).

CDC. See Centers for Disease Control and Prevention (CDC).

CDV. See Canine distemper virus (CDV).

Cellular receptors, for feline retroviruses, 881–882

Centers for Disease Control and Prevention (CDC), 756, 856


CHV. See Canine herpesvirus (CHV).

CIV. See Canine influenza virus (CIV).

Commercial vaccines, viruses in companion animals due to, accidental introduction, 919–929. See also Companion animals, viruses in, commercial vaccines as cause of.

Companion animals
domestic, parvovirus infection in, 837–850. See also Parvovirus infection, in companion animals.
viruses in commercial vaccines as cause of accidental introduction, 919–929
contaminated vaccines, danger of, 926–927
enhanced vigilance in at laboratory level, 926
clinician’s role in, 924–925
novel contaminate with serious consequences, 923–924
emerging
diagnostic investigation of, 755–774
antibody detection methods in, 764–766
antigen detection methods in, 766–767
clinical history in, 758–759
direction detection in, 763–764
electropherotyping in, 768–769
ELISA in, 765–767
establishing viral disease causation in, 770–771
failure or lack of correlation between techniques in, 770–771
gross pathologic and histopathologic findings in, 760–763
hemagglutination inhibition in, 765
immunofluorescence assays in, 766
in situ hybridization in, 768
laboratory methods in, 760–763
microarray platform in, 769–770
molecular-based methods in, 767–769
new generation molecular techniques in, 769–770
“orphan” virus, 770
pathogenic virus, 770
PCR in, 768
physical and chemical methods in, 763–764
RFLP in, 768–769
serology in, 764
serum neutralization in, 765
specimen collection in, 759–760
“vaccine-source” vaccine, 770
viral genome sequencing technologies in, 769
virus isolation in, 763
western blot assay in, 766
vaccines for, 903–917. See also Vaccine(s), for emerging and re-emerging viral diseases in companion animals.

CRCoV. See Canine respiratory coronavirus (CRCoV).

D
Direct fluorescent antibody assay, in animals rabies diagnosis, 856
Direct rapid immunohistochemistry test, in animals rabies diagnosis, 856
Distemper virus, canine, 787–797. See also Canine distemper virus (CDV).
vaccines for, 909–911
Dog(s). See also Canine.
parvovirus infection in, 838–844. See also Canine parvovirus.
rabies in, 2–4
viral encephalitides in, emerging, 863–878. See also Viral encephalitides, emerging, in dogs and cats.

E
Electropherotyping, in diagnostic investigation of emerging viruses in companion animals, 768–769
ELISA
for antigen detection, in diagnostic investigation of emerging viruses in companion animals, 767
in diagnostic investigation of emerging viruses in companion animals, 765–766
Encephalitic viruses of undetermined clinical significance, in dogs and cats, 875

F
Feline calicivirus
clinical disease, 776–777
clinical syndromes associated with, 777–779
biotypes, 779
“limping disease,” 777
lower respiratory tract disease, 777
virulent systemic disease, 777–779
epidemiology of, 775–776
host range in, 779–780
immunity to, 908–909
molecular virology of, 775–786
antigenic determinants in, 781–783
antigenic variation in, 781–783
capsid structure in, 781–783
genetic variability in, 780–781
genomic structure in, 780–781
virus translation and replication in, 781
receptors in, 779–780
tissue tropism in, 779–780
vaccines for, 907–909
virus entry in, 779–780
Feline immunodeficiency virus infection
diagnosis of, 890
disease and, 882–884
treatment of, 893–894
Feline leukemia virus infection
anemia and, 886–887
cell-mediated immune response in, 887–888
diagnosis of, 888–889
disease and, 884–887
immunology of, 887–888
immunosuppression and, 888
lymphoma and, 885–886
treatment of, 893–894
tumor development and, 885
vaccines against, 891
development of, 892–893
efficacy of, 891–892
safety of, 891–892
virus-neutralizing antibodies in, 887
Feline panleukopenia, 845–847
antemortem testing for, 845
clinical pathologic findings in, 845
clinical signs of, 845
evolution of, 847
gross and histologic pathology findings in, 845–846
host range for, 845
origin of, 845
prevention of, 846–847
treatment of, 846–847
Feline retroviruses
cellular receptors for, 881–882
disease and, 882
Ferret(s), rabies, 855

G
Genome(s), retrovirus, 879–881
H

H5N1 avian influenza virus, highly pathogenic, in dogs and cats, 869–873
described, 869–870
diagnosis of, 872
experimental disease, 871–871
gross and histologic pathology findings in, 872
natural disease, 870–871
prevention of, 873
serologic evidence in, 870

Health and Human Service regulations, 759–760

Hemagglutination inhibition, in diagnostic investigation of emerging viruses in companion animals, 765

Henipaviruses, in dogs and cats, 867–869
clinical disease, 868–869
described, 867–868
diagnosis of, 869
gross and histologic pathology findings in, 869
prevention of, 869
surveillance for, 868

Hepatitis, infectious, canine, 800–802

Herpesvirus(es), canine, 805–808. See also Canine herpesvirus (CHV).

Histopathology, in animals rabies diagnosis, 857–858

Humane Society of the United States, 756

Hybridization, in situ, in diagnostic investigation of emerging viruses in companion animals, 768

I

IATA. See International Air Transport Association (IATA).

ICH. See Infectious hepatitis (ICH).

Immune response, cell-mediated, feline leukemia virus infection and, 887–888

Immunity, to feline calicivirus, 908–909

Immunization(s). See Vaccine(s).

Immunoblot assay, in diagnostic investigation of emerging viruses in companion animals, 766

Immunodeficiency virus infection, feline, diagnosis of, 888–890

Immunofluorescence assays, in diagnostic investigation of emerging viruses in companion animals, 766

Immunohistochemistry, in animals rabies diagnosis, 857–858

Immunology, feline leukemia virus infection and, 887–888

Immunosuppression, feline leukemia virus infection and, 888

In situ hybridization, in diagnostic investigation of emerging viruses in companion animals, 768

Infection(s). See also specific types.
feline immunodeficiency virus, disease and, 882–884
feline leukemia virus. See Feline leukemia virus infection.
parvovirus, in domestic companion animals, 837–850. See also Parvovirus infection, in companion animals.
retroviral, of small animals, 879–901.
See also Retroviral infections, of small animals.

Infectious hepatitis (ICH), canine, 800–802

Infectious tracheobronchitis, canine, 802–805
clinical signs of, 802–803
diagnosis of, 803–804
pathologic findings in, 802–803
treatment of, 804–805
vaccination for, 804–805

Influenza virus
H5N1 avian, highly pathogenic, in dogs and cats, 869–873. See also H5N1 avian influenza virus, highly pathogenic, in dogs and cats.
in companion animals, vaccines for, 911–913

International Air Transport Association (IATA), 760

Leukemia, feline. See Feline leukemia virus infection.

“Limping disease,” feline calicivirus and, 777

Lower respiratory tract disease, feline calicivirus and, 777

Lymphoma(s), feline leukemia virus and, 885–886

Lyssavirus diseases, in companion animals, vaccines for, 904–905

Microarray platform, in diagnostic investigation of emerging viruses in companion animals, 769–770
Molecular virology, of feline calicivirus, 775–786. See also Feline calicivirus, molecular virology of.

N
National Companion Animal Surveillance Program (NCASP), 757
NCASP. See National Companion Animal Surveillance Program (NCASP).
Neonate(s), CHV in, mortality associated with, 806
  9 Code of Federal Regulations (9CFR), 921

P
Panleukopenia, feline, 845–847. See also Feline panleukopenia.
Parvovirus(es)
  described, 837
  structure of, 837–838
Parvovirus infection, in companion animals, 837–850
  cats, 844–847
  dogs, 838–844. See also Canine parvovirus.
  vaccines for, 907
PCR. See Polymerase chain reaction (PCR).
Pet Hospital, 757
Polymerase chain reaction (PCR), in diagnostic investigation of emerging viruses in companion animals, 768

R
Rabbit(s), rabies in, 855–856
Rabies
  historical background of, 851
  in companion animals, vaccines for, 904–906
  described, 904
  emerging disease, 904–905
  new approaches to, 905–906
  research on, 905
  in small animals, 851–861
  cats, 854
  control of, 858
  dogs, 822–854
  ferrets, 855
  in United States, 851–852
  laboratory diagnosis of, 856–858
  detection of rabies virus–specific antibodies in, 858
direct fluorescent antibody assay in, 856
direct rapid immunohistochemistry test in, 856
histopathology in, 857–858
immunohistochemistry in, 857–858
RT-PCR in, 857
virus isolation in, 856–857
rabbits, 855–856
Respiratory disease, CHV and, 806–807
Respiratory tract, group 1 canine coronavirus in, presence of, 822–823
Respiratory tract disease, lower, feline calicivirus and, 777
Restriction fragment length polymorphism (RFLP), in diagnostic investigation of emerging viruses in companion animals, 768–769
Retroviral infections, in small animals, 879–901
cats
  cellular receptors for, 881–882
  disease and, 882
  vaccination against, 890–893
dogs, future developments in, 894–895
feline immunodeficiency virus infection, 882–884
feline leukemia virus infection, 884–887. See also Feline leukemia virus infection.
  future developments in, 893–895
Retrovirus(es)
  genome of, 879–881
  life cycle of, 881
Reverse transcriptase polymerase chain reaction (RT-PCR), in animals rabies diagnosis, 857
RFLP. See Restriction fragment length polymorphism (RFLP).
RT-PCR. See Reverse transcriptase polymerase chain reaction (RT-PCR).

S
Serology, in diagnostic investigation of emerging viruses in companion animals, 764
Serum neutralization, in diagnostic investigation of emerging viruses in companion animals, 765
Small animals
  rabies in, 851–861. See also Rabies, in small animals.
Small (continued)
retroviral infections of, 879–901. See also Retroviral infections, in small animals.

T
Title 42 CFR Part 72, 760
Title 43 CFR Part 173, 760
Tracheobronchitis, infectious, canine, 802–805. See also Infectious tracheobronchitis, canine.
Tumor(s), feline leukemia virus infection and, 885

U
US Department of Agriculture (USDA), 757
USDA. See US Department of Agriculture (USDA).

V
Vaccine(s)
adverse effects of, 920, 922
against feline retroviral disease, 890–893. See also Feline leukemia virus infection, vaccines against.
commercial, viruses in companion animals due to, accidental introduction, 919–929. See also Companion animals, viruses in, commercial vaccines as cause of.
contaminated, danger of, 926–927
for CHV, 808
for emerging and re-emerging viral diseases in companion animals canine distemper, 909–911
feline calcivirus, 907–909
influenza, 911–913
parvovirus, 907
rabies, 904–906. See also Rabies.
for emerging viruses, role of, 924–925
for infectious tracheobronchitis, 804–805
principles of, 919–920
regulation of, 920–922
strategies for, types of, 919–920
Viral encephalitides, emerging, in dogs and cats, 863–878
Born disease virus, 873–875
causes of, 863
encephalitic viruses of undetermined clinical significance, 875
henipaviruses, 867–869
highly pathogenic H5N1 avian influenza virus, 869–873
West Nile virus, 864–867
Viral genome sequencing technologies, in diagnostic investigation of emerging viruses in companion animals, 769
Virus(es)
canine influenza, 827–835. See also Canine influenza virus (CIV).
in companion animals commercial vaccines as cause of, accidental introduction, 919–929. See also Companion animals, viruses in, commercial vaccines as cause of.
emerging viruses diagnostic investigation of, 755–774. See also Companion animals, viruses in, emerging, diagnostic investigation of.
vaccines for, 903–917. See also Vaccine(s), for emerging and re-emerging viral diseases in companion animals.
re-emerging, in companion animals, vaccines for, 903–917. See also Vaccine(s), for emerging and re-emerging viral diseases in companion animals.
Virus isolation, in animals rabies diagnosis, 856–857
Virus-neutralizing antibodies, feline leukemia virus infection and, 887

W
West Nile virus, in dogs and cats, 864–867
control of, 867
described, 864–865
diagnosis of, 867
experimental disease, 866
gross and histologic pathology findings in, 866–867
natural disease, 865–866
prevention of, 867
surveillance data for, 865
Western blot assay, in diagnostic investigation of emerging viruses in companion animals, 766
WHO. See World Health Organization (WHO).
World Health Organization (WHO), 856–857