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No. 1

Taxonomy

Polydnaviridae – A Proposed Family of Insect Viruses with Segmented, Double-Stranded, Circular DNA Genomes
Stoltz, D.B.; Krell, P.; Summers, M.D.; Vinson, S.B. ........................................... 1

Original Papers

Ultrastructural Changes during Herpes Simplex Virus Type 2 Latency and Reactivation in vitro
Hung, T.; Mummaw, J.G.; Wigdahl, B.L.; Fang, Z.Y.; Huaying, J.; Rapp, F. ............... 5
Candidate Products of Avian Myeloblastosis Virus Oncogene Region Produced by in vitro Translation of Genomic RNA
Wright, S.E.; Harmon, S.A.; Smith, D.P.; Hayes, J.K.; Robertson, P.A.; Wayne, A.W. 17
Variation in the Structure of Varicella-Zoster Virus DNA
Ecker, J.R.; Kudler, L.; Hyman, R.W. .......................................................... 25
Characterization of the Changuinola Serogroup Viruses (Reoviridae: Orbivirus)
Replication and Serial Passage of a Singly Enveloped Baculovirus of Orgyia leucostigma in Homologous Cell Lines
Sohi, S.S.; Percy, J.; Arif, B.M.; Cunningham, J.C. ............................................. 50

No. 2

Original Papers

Preclinical Changes in Weight of Scrapie-Infected Mice as a Function of Scrapie Agent-Mouse Strain Combination
Carp, R.I.; Callahan, S.M.; Sersen, E.A.; Moretz, R.C. ........................................ 61
Sphingolipid Metabolism during Infection of Human Fibroblasts by Herpes Simplex Virus Type 1
Steinhart, W.L.; Busch, J.S.; Oettgen, J.P.; Howland, J.L. ................................... 70
Mechanism of Persistence with Canine Distemper Virus: Difference between a Laboratory Strain and an Isolate from a Dog with Chronic Neurological Disease
Tobler, L.H.; Imagawa, D.T. ................................................................. 77
The Inability of in vitro Transforming SV40 Subgenomes to Cause Tumors in vivo
Moyer, M.P.; Arizpe, H.; Sosa, A.; Pierson, K.; Moyer, R.C. ............................... 87
Heterogeneity in Subregions of the Terminal Repeats of Herpes Simplex Virus Type 2 DNA
Berg, F.M. van den; Ooyen, A.J.J. van; Volkers, H.; Walboomers, J.M.M. .......... 96
Characterization of Epstein-Barr Virus-Related Thymidine Kinase Induced in Nonproducer Cells by Superinfection or Chemical Treatment
Mac Gabhann, P.; Sugawara, K.; Ito, Y. ....................................................... 104
A Study of Measles Virus Antigens in Acutely and Persistently Infected Cells Using Monoclonal Antibodies: Differences in the Accumulation of Certain Viral Proteins
Giraudon, P.; Gerald, Ch.; Wild, T.F. ......................................................... 110
No. 3

Original Papers

OK10-Transformed Cell Lines: Viral Component Generation and Tumorigenicity
Pfeifer-Ohlsson, S. ........................................ 121

Mode of Action of the Antiphytoviral Compound 2,4-Dioxohexahydro-1,3,5-triazine (5-Azadihydrouracil)
Schuster, G.; Arenhövel, C. ................................. 134

Effect of Acyclovir and Phosphonoformate on Cytomegalovirus Infection in Guinea Pigs
Lucia, H.L.; Griffith, B.P.; Hsiung, G.D. .................. 141

Accumulation of Poliovirus Proteins in Uninfected Isolated HEp-2 Cell Nuclei in vitro
Bossart, W.; Egger, D.; Rasser, Y.; Bienz, K. ............... 150

Glycine Mottle Virus, a Possible Member of the Tombusvirus Group
Behncken, G.M.; Dale, J.L. .................................. 159

Short Communications

Characterization of a Cytoplasmic Polyhedrosis Virus Infecting Manduca sexta
Galinski, M.S.; Kingan, T.; Rohrmann, G.F.; Martignoni, M.E.; Beaudreau, G.S. ......... 167

Protection Conferred against Junin Virus Infection in Rats
Blejer, J.L.; Galassi, N.V.; Saavedra, V.M.; Nejamkis, M.R. ......................... 174

Transplacental Infection in Guinea Pigs Inoculated with an Attenuated Strain of Junin Virus
Boxaca, M.C.; Gómez, M.d.l.M.; Berria, M.I.; Iácono, R.F. ..................... 178

No. 4

Original Papers

Relationship of Encephalomyocarditis Virus to Cricket Paralysis Virus of Insects
Tinsley, T.W.; MacCallum, F.O.; Robertson, J.S.; Brown, F. ...................... 181

Localization of Hepatitis A Virus Antigen to Specific Subcellular Fractions of Hepatitis-A-Infected Chimpanzee Liver Cells
Khan, N.C.; Hollinger, F.B.; Melnick, J.L. .................................. 187

Changes in Cellular DNA Sequence Adjacent to Integrated Viral Genome in Transplantable and Nontransplantable Guinea Pig Cells Transformed by SV40

Interaction of Autographa californica Nuclear Polyhedrosis Virus with Two Nonpermissive Cell Lines
Gröner, A.; Granados, R.R.; Burand, J.P. .................................. 203

Recognition of Host-Membrane Antigens in the Envelope of Measles Virions
Armstrong, M.A.; Fraser, K.B.; Shirodaria, P.V. .................................. 210

Priming of Bovine Interferons
Lefkowitz, S.S.; Luna, V.E.R. ..................................... 221

Short Communications

Specificity of the Actinomycin-D-Sensitive Function of Some RNA Plant Viruses
Turner, M.S.; Dawson, W.O. .................................. 224

General Information on the Vertebrate Virus Data Bank 'DAISY': First Report
Bachmann, P.A.; Eichhorn, W. .................................. 229

Author Index ............................................. 232
Subject Index ........................................... 235
General Information on the Vertebrate Virus Data Bank ‘DAISY’: First Report

Peter A. Bachmann, Werner Eichhorn

World Health Organization Collaborating Centre for the Collection and Evaluation of Data on Comparative Virology, Munich, FRG

The aims of the work at the Munich Centre are to establish, collate and maintain detailed up-to-date information on viruses affecting animals and man and to establish a data bank on viruses of vertebrates in a computerized system. For this purpose, a questionnaire has been developed containing over 200 items, including relevant references. Specialists fill out questionnaires on a certain virus, which are then put into the data bank. The virus questionnaires principally consist of five sections: general data (taxonomy, history, availability of reagents); viral properties (nucleic acid, proteins, lipids, carbohydrates, physicochemical relationships); diagnosis (viral and serological diagnosis); natural and experimental infection (transmission, course of infection, immunological response); and selected references.

A special computer program has been developed for the virus data bank employing the programming language PASCAL and a strictly sequential file concept. This system allows for unlimited corrections to be made on each questionnaire, while other files can be used for retrieval. The data bank has four independent features: input and update of questionnaires; entering of questionnaires (updated) into the data bank set; selection of a virus questionnaire and its transfer to the input file (update); and retrieval.

The data bank program is compatible with most of the commercially available systems. All data are stored on magnetic discs. There is a wide range of options for the retrieval of data: retrieval of completed virus data questionnaires; retrieval of certain parts of the questionnaires; retrieval of answers to a single or multiple questions for all viruses in the data bank; and multiple linkage analysis for different data items (comparison of multiple data from all viruses).

Plain language is used for all virus data and, to facilitate retrieval and linkage analysis, a standard list of key words has been compiled enabling the use of the data bank without complicated training.

Regular updating of the virus questionnaires in the data bank is planned at yearly intervals. Since new items (questions) will have to be introduced into the questionnaire, and others presently listed in the questionnaire deleted, software has been developed

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Received: September 20, 1983
to include these additional steps in the program. This permits changes in the present concept as well as in virus questionnaires already stored in the data bank.

Retrieval, input and updates are carried out using an interactive computer terminal. Data can be obtained as a printout or microfiche or on magnetic tapes.

Stored data are available on request to public health authorities, institutions, study groups of the International Committee on Taxonomy of Viruses and other organizations, and on a limited basis to individuals.

In addition, software has been developed for a vaccine data sheet based on the virus program. Data for each viral vaccine produced will be collected. A short questionnaire has been prepared in cooperation with several specialists in the field. Data collection on rabies vaccines has been started in collaboration with the WHO Mediterranean Zoonoses Centre, Athens.

The following is a list of viruses in the data bank.

**Paroviridae**
- Minute virus of mice
- Bovine parvovirus
- Parovirus H-1
- Porcine parvovirus
- Equine dependovirus
- Canine dependovirus
- Avian dependovirus
- Bovine dependovirus
- Parovirus RT
- Rabbit parvovirus
- Aleutian disease virus
- Parovirus LuIII
- Parovirus TVX
- Feline panleukopenia virus
- Goose parvovirus
- Dependovirus types 1–4

**Adenoviridae**
- Equine adenovirus
- Human adenovirus type 5
- Rabbit adenovirus
- Bovine adenovirus type 4
- Simian adenovirus types 1–24
- Tupaia adenovirus

**Herpesviridae**
- Channel catfish virus
- Porcine cytomegalovirus
- Equine herpesvirus types 2 and 3
- Canine herpesvirus
- IBR IPV virus
- Marek's disease virus
- Turkey herpesvirus
- Pseudorabies virus
- Human cytomegalovirus
- Herpesvirus salmonis
- Guinea pig cytomegalovirus
- Guinea pig herpes-like virus
- Infectious laryngotracheitis virus
- Bovine mammilitis virus

**Poxviridae**
- Vaccinia virus

**Iridoviridae**
- African swine fever virus

**Picornaviridae**
- Teschen talfan virus
- Foot-and-mouth disease virus, type O

**Caliciviridae**
- Feline calicivirus
- Vesicular exanthema of swine virus

**Reoviridae**
- Bovine rotavirus
- Chicken rotavirus
- Infectious bursal disease virus
- Infectious
<table>
<thead>
<tr>
<th>Coronaviridae</th>
<th>Togaviridae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enteritis of turkey virus</td>
<td>Bovine viral diarrhea virus</td>
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<tr>
<td>Feline infectious peritonitis virus</td>
<td>Border disease virus</td>
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<td>Mouse hepatitis virus type 3 and type 4, strain A 59</td>
<td>Equine arteritis virus</td>
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<td>Sialodacryoadenitis virus</td>
<td>Hog cholera virus</td>
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<td>Bovine coronavirus</td>
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<td>Transmissible gastroenteritis virus</td>
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<td>Rat coronavirus</td>
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<td>Hemagglutinating encephalomyelitis virus</td>
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<td>Canine coronavirus</td>
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<tr>
<td>Avian infectious bronchitis virus</td>
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<td>Human coronaviruses 229E and OC43</td>
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<th>Orthomyxoviridae</th>
<th>Retroviridae</th>
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<tr>
<td>Influenzavirus types A, B, and C</td>
<td>Visna-maedi virus</td>
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<td>Equine infectious anemia virus</td>
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<td>Bovine leukemia virus</td>
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<th>Paramyxoviridae</th>
<th>Arenaviridae</th>
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<tbody>
<tr>
<td>Canine distemper virus</td>
<td>Lymphocytic choriomeningitis virus</td>
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<td>Rinderpest virus</td>
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<tr>
<td>Newcastle disease virus</td>
<td></td>
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<tr>
<td>Peste des petits ruminants virus</td>
<td>Nonclassified viruses</td>
</tr>
<tr>
<td>Avian paramyxovirus types 2–9</td>
<td>Runde virus</td>
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<tr>
<td>Bovine respiratory syncytial virus</td>
<td>Marburg virus</td>
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<th>Rhabdoviridae</th>
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<td>Spring viremia of carp virus</td>
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<td>Eel rhabdovirus</td>
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<td>Infectious hematopoietic necrosis virus</td>
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<td>Rabies virus</td>
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<td>Bovine ephemeral fever virus</td>
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