

## Immunsuppressive Virusarten, Bakterien und Protozoen

**Adenovirus, Parvovirus B19, Vaccinia-Virusarten und Herpes Virus-6, -7, Varizellen-Zoster-Virus, Epstein Barr Virus, Cytomegalie Virus, Adenovirus, Coxsackie Virus, Phlebovirus / Bunyavirus, Masernvirus, Mumpsvirus, Human borna disease virus, Powassan Virus, Bourbon Virus, HIV ...**

**Mykoplasma, mycoplasmas (Autoimmunphänomene, autoimmune phenomena)**

**Pleomorphe Formen, pleomorphic forms**

<http://www.erlebnishaft.de/stressvar1.pdf> <http://www.erlebnishaft.de/stressvar2.pdf>

**der planktonischen Bakterien mit Zellwand, planctonic forms.**

<http://www.xerlebnishaft.de/escape.pdf> [http://www.xerlebnishaft.de/escape\\_eng.pdf](http://www.xerlebnishaft.de/escape_eng.pdf)

Xu GJ, Kula T, Xu O et al. (2015) **Comprehensive serological profiling of human populations using a synthetic human virome.** Science, 348, 1106-1114.

<http://www.sciencemag.org/content/348/6239/aaa0698>

« **VirScan may prove to be an important tool for uncovering the effect of host-virome interactions on human health and disease and could easily be expanded to include new viruses as they are discovered, as well as other human pathogens, such as bacteria, fungi, and protozoa.** »

**Morris G, Berk M, Walder K, Maes M (2015) The Putative Role of Viruses, Bacteria, and Chronic Fungal Biotoxin Exposure in the Genesis of Intractable Fatigue Accompanied by Cognitive and Physical Disability. Mol Neurobiol.**

<http://www.ncbi.nlm.nih.gov/pubmed/26081141>

### Adenovirus

Lindemans CA, Leen AM, Boelens JJ (2010) **How I treat adenovirus in hematopoietic stem cell transplant recipients.** Blood. 116(25), 5476-85.

Lion T (2014) **Adenovirus infections in immunocompetent and immunocompromised patients.** Clinical microbiology reviews. 27(3), 441-62.

### Parvovirus B19

[Kurtzman G, Frickhofen N, Kimball J, et al. \(1989\) Pure red-cell aplasia of 10 years' duration due to persistent parvovirus B19 infection and its cure with immunoglobulin therapy. N Engl J Med 321, 519.](#)

Saint-Martin J, Choulot JJ, Bonnaud E, Morinet F (1990) **Myocarditis** caused by parvovirus. J Pediatrics 116, 1007

[Koch WC, Massey G, Russell CE, Adler SP \(1990\) Manifestations and treatment of human parvovirus B19 infection in immunocompromised patients. J Pediatr. 116\(3\), 355-9.](#)  
<http://www.ncbi.nlm.nih.gov/pubmed/1689774>

Saag KG, True CA, Naides SJ (1993) **Intravenous immunoglobulin treatment** of chronic parvovirus B19 arthropathy. Arthritis Rheum. 36(Suppl), S67.

Cohen B (1995) Parvovirus B19: an expanding spectrum of disease. BMJ 311, 1549-1552

Searle K, Guillard C, Enders G (1997) Parvovirus B19 diagnosis in **pregnant women** – quantification of IgG antibody levels (IU/ml), with reference to the international parvovirus B19 standard serum. *Infection* 25, 32-34

Enders G, Dötsch J, Bauer J et al. (1998) Life-Threatening Parvovirus B19–Associated **Myocarditis** and Cardiac Transplantation as Possible Therapy: Two Case Reports *Clinical Infectious Diseases* 26, 355–358 <http://cid.oxfordjournals.org/content/26/2/355.full.pdf>

[Modrow S](#) (2001) **Parvovirus B19: Ein Infektionserreger mit vielen Erkrankungsbildern**. *Dtsch Arztebl* 98(24), A-1620 / B-1390 / C-1293 <http://www.aerzteblatt.de/pdf.asp?id=27694>  
<http://www.aerzteblatt.de/archiv/literatur/27694>

[Heegaard ED](#), [Brown KE](#) (2002) **Human Parvovirus B19**. *Clin Microbiol Rev.* 15(3), 485–505. doi: [10.1128/CMR.15.3.485-505.2002](https://doi.org/10.1128/CMR.15.3.485-505.2002) PMID: PMC118081 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC118081/>

[J. R. Kerr JR](#), [V. S. Cunniffe VS](#), [P. Kelleher P](#) et al. (2003) **Successful Intravenous Immunoglobulin Therapy in 3 Cases of Parvovirus B19-Associated Chronic Fatigue Syndrome**. *Clin Infect Dis.* (2003) 36 (9): e100-e106. doi: 10.1086/374666 <http://cid.oxfordjournals.org/content/36/9/e100.full>

[Barah F](#), [Vallely PJ](#), [Cleator GM](#), et al. (2003) **Neurological manifestations** of human parvovirus B19 infection. *Rev Med Virol* 13(3); 185-99. [Abstract](#)

[Duhaut P](#), [Bosshard S](#), [Ducroix JP](#) (2004) Is giant cell arteritis an infectious disease? Biological and epidemiological evidence. *Presse Med* 33(19 Pt 2), 1403-8. [Abstract](#)

[Alvarez-Lafuente R](#), [Fernández-Gutiérrez B](#), [Jover JA](#), et al. (2005) Human parvovirus B19, varicella zoster virus, and human herpes virus 6 in temporal artery biopsy specimens of patients with giant cell arteritis: analysis with quantitative real time polymerase chain reaction. *Ann Rheum Dis* 64(5), 780-2. [Abstract](#)

[Banwell B](#), [Krupp L](#), [Kennedy J](#), et al. (2007) Clinical features and viral serologies in children with **multiple sclerosis**: a multinational observational study. *Lancet Neurol* 6(9), 773-81. [Abstract](#)

[Musiani M](#), [Manaresi E](#), [Gallinella G](#), et al. (2007) Persistent parvovirus b19 infection resulting in carpal tunnel syndrome. *J Clin Pathol* 60(10), 1177-8. [Full Citation](#)

[Coskun O](#), [Erdem H](#), [Gul HC](#), et al. (2008) Meningoencephalitis associated with human parvovirus B19. *Clin Microbiol Infect* 14(12), 1188-90. [Full Citation](#)

[Seishima M](#), [Mizutani Y](#), [Shibuya Y](#), et al. (2008) Chronic fatigue syndrome after human parvovirus B19 infection without persistent viremia. *Dermatology* 216(4), 341-6. [Abstract](#)

[Buyukkose M](#), [Kozanoglu E](#), [Basaran S](#), et al. (2009) Seroprevalence of parvovirus B19 in fibromyalgia syndrome. *Clin Rheumatol* 28(3), 305-9. [Abstract](#)

[Douvoyiannis M](#), [Litman N](#), [Goldman DL](#) (2009) Neurologic manifestations associated with parvovirus B19 infection. *Clin Infect Dis* 48(12), 1713-23. [Abstract](#)

[Frémont M](#), [Metzger K](#), [Rady H](#), et al. (2009) Detection of herpes viruses and parvovirus B19 in gastric and intestinal mucosa of chronic fatigue syndrome patients. *In Vivo* 23(2), 209-13. [Abstract](#)

[Zhang G](#), [Xu D](#), [Sun X](#), et al. (2010) [The VP1-unique region of parvovirus B19 induces myocardial injury in mice](#). *Scandinavian journal of infectious diseases* 2010

[Marek I](#), [Metzler M](#), [Reutter G](#), et al. (2010) Recurrent fever episodes with arthralgia or hyperesthesia--have you ruled out parvovirus B19? *Klin Padiatr* 222(6), 397-8. [Full Citation](#)

(2010) Mitteilungen des Arbeitskreises Blut des Bundesministeriums für Gesundheit **Parvovirus B19 Stellungnahmen des Arbeitskreises Blut des Bundesministeriums für Gesundheit**. *Bundesgesundheitsbl* 2010 · 53:944–956 DOI 10.1007/s00103-010-1109-9 [http://www.rki.de/DE/Content/Kommissionen/AK\\_Blut/Stellungnahmen/download/stPVB19.pdf?\\_\\_blob=publicationFile](http://www.rki.de/DE/Content/Kommissionen/AK_Blut/Stellungnahmen/download/stPVB19.pdf?__blob=publicationFile)

Scheibe F, Hofmann J, Ruprecht K (2010) Parainfectious myelitis associated with parvovirus B19 infection. *J Neurol* 257(9), 1557-8. [Full Citation](#)

Le Scanff J, Vighetto A, Mekki Y, et al. (2010) Acute ophthalmoparesis associated with human parvovirus B19 infection. *Eur J Ophthalmol* 20(4), 802-4. [Abstract](#)

Kerr JR, Gough J, Richards SC, et al. (2010) Antibody to parvovirus B19 nonstructural protein is associated with chronic arthralgia in patients with chronic fatigue syndrome/**myalgic encephalomyelitis**. *J Gen Virol* 91(Pt 4), 893-7. [Abstract](#)

Nara M, Shirata Y, Kikuchi T, et al. (2011) Adult human parvovirus-B19 infection presenting with hearing difficulty and dizziness. *Tohoku J Exp Med* 224(1), 57-9. [Abstract](#)

Barbi F, Ariatti A, Funakoshi K, et al. (2011) Parvovirus B19 infection antedating Guillain-Barre' syndrome variant with prominent facial diplegia. *J Neurol* 258(8), 1551-2. [Full Citation](#)

Cassisi G, Sarzi-Puttini P, Cazzola M (2011) Chronic widespread pain and fibromyalgia: could there be some relationships with infections and **vaccinations**? *Clin Exp Rheumatol* 29(6 Suppl 69), S118-26. [Abstract](#)

Lenglet T, Haroche J, Schnuriger A, et al. (2011) Mononeuropathy multiplex associated with acute parvovirus B19 infection: characteristics, treatment and outcome. *J Neurol* 258(7), 1321-6. [Abstract](#)

Hanai S, Komaki H, Sakuma H, et al. (2011) Acute autonomic sensory and motor neuropathy associated with parvovirus B19 infection. *Brain Dev* 33(2), 161-5. [Abstract](#)

Uchida Y, Matsubara K, Morio T, et al. (2012) Acute cerebellitis and concurrent encephalitis associated with parvovirus B19 infection. *Pediatr Infect Dis J* 31(4), 427. [Full Citation](#)

Prieto de Paula JM, Mayor-Toranzo E, Franco-Hidalgo S (2012) Bilateral carpal tunnel syndrome and parvovirus B19 infection. *Rev Clin Esp* 212(4), 221-2. [Full Citation](#)

Cugler T, Carvalho LM, Facincani I, et al. (2012) Severe glomerulonephritis and encephalopathy associated with parvovirus B19 infection mimicking systemic lupus erythematosus. *Scand J Rheumatol* 41(1), 79-81. [Full Citation](#)

[Chapenko S](#), [Krumina A](#), [Logina I](#) et al. (2012) Association of Active **Human Herpesvirus-6, -7** and Parvovirus B19 Infection with Clinical Outcomes in Patients with **Myalgic Encephalomyelitis / Chronic Fatigue Syndrome**. *Adv Virol*. 205085. <http://www.ncbi.nlm.nih.gov/pubmed/22927850>

[Crabol Y](#), [Terrier B](#), [Rozenberg F](#), et al. (2013) **Intravenous immunoglobulin therapy for pure red cell aplasia related to human parvovirus b19 infection: a retrospective study of 10 patients and review of the literature**. *Clin Infect Dis* 56, 968.

Nykky J, Vuento M, Gilbert L (2014) **Role of Mitochondria in Parvovirus Pathology**. *PLoSone* 9(1), e86124 <http://www.oalib.com/paper/3005118#.VOX8gC4xBW0>  
<http://www.ncbi.nlm.nih.gov/pubmed/24465910>

**« At 12 hours post infection, concurrent with the expression of viral non-structural protein 1, damage to the mitochondrial structure and depolarization of its membrane were apparent. »**

## **Herpes Virus-6, -7, Herpes zoster**

Kalliomäki JL, Halonen P (1972) Antibody levels to parainfluenza, herpes simplex, varicella-zoster, cytomegalo virus, and measles virus in patients with connective tissue diseases. *Ann Rheum Dis* 31(3), 192-5. [Full Citation](#)

Wohlrabe P, Sprössig M, Färber I, et al. (1984) Virologico-serologic studies in patients with brain tumors. *Zentralbl Neurochir* 45(2), 152-8. [Abstract](#)

Vandvik B, Sköldenberg B, Forsgren M, et al. (1985) Long-term persistence of intrathecal virus-specific antibody responses after herpes simplex virus encephalitis. *J Neurol* 231(6), 307-12. [Abstract](#)

Sandberg-Wollheim M, Vandvik B, Nadj C, et al. (1987) The intrathecal immune response in the early stage of **multiple sclerosis**. *J Neurol Sci* 81(1), 45-53. [Abstract](#)

Njoo FL, Wertheim-van Dillen P, Devriese PP (1988) Serology in facial paralysis caused by clinically presumed herpes zoster infection. *Arch Otorhinolaryngol* 245(4), 230-3. [Abstract](#)

Pevenstein SR, Williams RK, McChesney D, Mont EK, Smialek JE, Straus SE (1999) . Quantitation of latent varicella-zoster virus and herpes simplex virus genomes in human trigeminal ganglia. *J Virol* 73, 10514-8. [Abstract/FREE Full Text](#)

Jääskeläinen AJ, Piiparinen H, Lappalainen M, et al. (2006) Multiplex-PCR and oligonucleotide microarray for detection of eight different herpes viruses from clinical specimens. *J Clin Virol* 37(2), 83-90. [Abstract](#)

Garcia-Montojo M, Martinez A, De Las Heras V et al. (2011) Herpesvirus active replication in **multiple sclerosis**: a genetic control? *J Neurol Sci*. 311(1-2), 98-102. Epub 2011 Oct 1.

Tanaka M, Kato A, Satoh Y, Tlde T et al. (2012) [Herpes simplex virus 1 VP22 regulates translocation of multiple viral and cellular proteins and promotes neurovirulence.](#) *Journal of virology*

Jankosky C, Deussing E, Gibson RL, et al. (2012) Viruses and vitamin D in the etiology of type 1 diabetes mellitus and **multiple sclerosis**. *Virus Res* 163(2), 424-30. [Abstract](#)

Watson AM, Prasad KM, Klei L, Wood JA et al. (2012) Persistent infection with neurotropic herpes viruses and **cognitive impairment**. *Psychol Med*. 14, 1-9.

Simpson S Jr, Taylor B, Dwyer DE et al. (2012) Anti-HHV-6 IgG titer significantly predicts subsequent relapse risk in **multiple sclerosis**. *Mult Scler*. 18(6), 799-806. Epub 2011 Nov 14.

Prusty BK, Böhme L, Bergmann B et al. (2012) Imbalanced Oxidative Stress Causes Chlamydial Persistence during **Non-Productive Human Herpes Virus** Co-Infection. *PloS one* <http://www.ncbi.nlm.nih.gov/pubmed/23077614>

[Chapenko S](#), [Krumina A](#), [Logina I](#) et al. (2012) Association of active human herpesvirus-6, -7 and parvovirus b19 infection with clinical outcomes in patients with myalgic encephalomyelitis/chronic fatigue syndrome. *Adv Virol*. 2012, 205085. Epub.

Agut H, et al (2015) **Laboratory and clinical aspects of human herpesvirus 6 infections**. *Clinical microbiology reviews*. 28(2), 313-35.

Gautheret-Dejean A et al. (2016) **Diagnosis and practice of virological monitoring of infections by the human herpesviruses 6A and 6B**. *Annales de Biologie Clinique (Paris)*. 74(2), 156-167

[Dowd JB](#), [Bosch JA](#), [Steptoe A](#) et al. (2017) **Persistent Herpesvirus Infections and Telomere Attrition Over 3 Years in the Whitehall II Cohort**. *J Infect Dis* jix255. DOI:<https://doi.org/10.1093/infdis/jix25>

## Epstein Barr Virus

Alotaibi S, Kennedy J, Tellier R, et al. (2004) Epstein-Barr virus in pediatric **multiple sclerosis**. *JAMA* 291(15), 1875-9. [Abstract](#)

Leveque N, Van Haecke A, Renois F, et al. (2011) Rapid virological diagnosis of central nervous system infections by use of a multiplex reverse transcription-PCR DNA microarray. *J Clin Microbiol* 49(11),3874-9. [Abstract](#)

- Kleines M, Schiefer J, Stienen A, et al. (2011) Expanding the spectrum of neurological disease associated with Epstein-Barr virus activity. *Eur J Clin Microbiol Infect Dis* 30(12), 1561-9. [Abstract](#)
- Martelius T, Lappalainen M, Palomäki M, et al. (2011) Clinical characteristics of patients with Epstein Barr virus in cerebrospinal fluid. *BMC Infect Dis* 281. [Abstract](#)
- Lassmann H, Niedobitek G, Aloisi F, et al. (2011) Epstein-Barr virus in the **multiple sclerosis** brain: a controversial issue--report on a focused workshop held in the Centre for Brain Research of the Medical University of Vienna, Austria. *Brain* 134(Pt 9), 2772-86. [Abstract](#)
- Lucas RM, Hughes AM, Lay ML, et al. (2011) Epstein-Barr virus and **multiple sclerosis**. *J Neurol Neurosurg Psychiatry* 82(10), 1142-8. [Abstract](#)
- Santón A, Cristóbal E, Aparicio M, et al. (2011) High frequency of co-infection by Epstein-Barr virus types 1 and 2 in patients with **multiple sclerosis**. *Mult Scler* 17(11), 1295-300. [Abstract](#)
- Lossius A, Vartdal F, Holmøy T (2011) Vitamin D sensitive EBNA-1 specific T cells in the cerebrospinal fluid of patients with **multiple sclerosis**. *J Neuroimmunol* 87-96. [Abstract](#)
- Disanto G, Meier U, Giovannoni G, et al. (2011) Vitamin D: a link between Epstein-Barr virus and **multiple sclerosis** development? *Expert Rev Neurother* 11(9), 1221-4. [Full Citation](#)
- Owens GP, Gilden D, Burgoon MP, et al. (2011) Viruses and **multiple sclerosis**. *Neuroscientist* 17(6), 659-76. [Abstract](#)
- Losada-Del Pozo R, Cantarín-Extremera V, García-Peñas JJ, et al. (2011) Characteristics and evolution of patients with **Alice in Wonderland syndrome**. *Rev Neurol* 53(11), 641-8. [Abstract](#)
- [Lassmann H](#), [Niedobitek G](#), [Aloisi F](#) et al. (2011) Epstein-Barr virus in the **multiple sclerosis brain**: a controversial issue—report on a focused workshop held in the Centre for Brain Research of the Medical University of Vienna, Austria. *Brain*. 134(9), 2772–2786. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3170536/>
- Tselis A (2011) Evidence for viral etiology of **multiple sclerosis**. *Semin Neurol* 31(3), 307-16. [Abstract](#)
- [Borkosky SS](#), [Whitley C](#), [Kopp-Schneider A](#), [zur Hausen H](#), [de Villiers EM](#). (2012) Epstein-Barr virus stimulates torque teno virus replication: a possible relationship to **multiple sclerosis**. *PLoS One*. 7(2), e32160. Epub 2012 Feb 22. <http://www.ncbi.nlm.nih.gov/pubmed/22384166>
- Tselis A (2012) Epstein-Barr virus cause of **multiple sclerosis**. *Curr Opin Rheumatol* 24(4), 424-8. [Abstract](#)
- Borkosky SS, Whitley C, Kopp-Schneider A, et al. (2012) Epstein-Barr virus stimulates torque teno virus replication: a possible relationship to **multiple sclerosis**. *PLoS One* 7(2), e32160. [Abstract](#)
- Bouguila J, Tej A, Hasni I, et al. (2012) Epstein-Barr virus infection and acute transverse myelitis. *Med Mal Infect* 42(2), 83-4. [Full Citation](#)
- Tzartos JS, Khan G, Vossenkamper A, et al. (2012) Association of innate immune activation with latent Epstein-Barr virus in **active MS lesions**. *Neurology* 78(1), 15-23. [Abstract](#)
- Lünemann JD (2012) Epstein-Barr virus in **multiple sclerosis**: a continuing conundrum. *Neurology* 78(1), 11-2. [Full Citation](#)
- Toepfner N, Cepok S, Grummel V, et al. (2012) The role of the Epstein-Barr virus receptor CD21 in **multiple sclerosis**. *J Neuroimmunol* 242(1-2), 47-51. [Abstract](#)
- Guan J, Lu Z, Zhou Q (2012) Reversible **parkinsonism** due to involvement of substantia nigra in Epstein-Barr virus encephalitis. *Mov Disord* 27(1), 156-7. [Full Citation](#)

Sundqvist E, Sundström P, Lindén M, et al. (2012) Epstein-Barr virus and **multiple sclerosis**: interaction with HLA. *Genes Immun* 13(1), 14-20. [Abstract](#)

[Gulbahce N](#), [Yan H](#), [Dricot A](#) et al. (2012) Viral perturbations of host networks reflect disease etiology. *PLoS Comput Biol.* 8(6), e1002531. Epub 2012 Jun 28. <http://www.ncbi.nlm.nih.gov/pubmed/22761553>

Rubicz R, Yolken R, Drigalenko E, Carless MA, Dyer TD, Bauman L, Melton PE, Kent JW Jr, Harley JB, Curran JE et al. (2013) A genome-wide integrative genomic study localizes genetic factors influencing antibodies against **Epstein-Barr virus nuclear antigen 1 (EBNA-1)**. *PLoS Genet* 9, e1003147. A combined genome-wide linkage and association approach identifying the role of HLA class II variants controlling anti-EBV antibody levels.

Pedergnana V, Syx L, Cobat A, Guergnon J, Brice P, Ferme´ C, Carde P, Hermine O, Pendeven CL, Amiel C et al. (2014) Combined linkage and association studies show that **HLA class II variants control levels of antibodies against Epstein-Barr virus antigens**. *PLoS One* 9(7), e102501 <http://dx.doi.org/10.1371/journal.pone.0102501> eCollection 2014.

Guo Y, Wang Sh, Jiang B et al. (2017) **Encephalitis with reversible splenic and deep cerebral white matter lesions associated with Epstein–Barr virus infection in adults**. [Volume 2017\(13\)](#), 2085—2092 DOI <https://doi.org/10.2147/NDT.S135510> [https://www.dovepress.com/articles.php?article\\_id=34098](https://www.dovepress.com/articles.php?article_id=34098)

**Unbound MEDLINE results for: Epstein Barr and neurological disorder** [Refine this search](#)  
1962 journal articles in the PubMed database (2014)

## Cytomegalie Virus

Sandberg-Wollheim M, Vandvik B, Nadj C, et al. (1987) The intrathecal immune response in the early stage of **multiple sclerosis**. *J Neurol Sci* 81(1), 45-53. [Abstract](#)

Wissen-Siegert I, Welkoborsky HJ (1990) Value and status of neurologic, serologic, internal medicine and orthopedic studies in routine diagnosis of sudden deafness. *Laryngorhinotologie* 69(3), 140-4. [Abstract](#)

Osterwalder P, Koch J (1998) Fever, headache and weakness. Primary cytomegalovirus infection.. *Praxis (Bern 1994)* 87(8), 282-6. [Abstract](#)

Feng ZJ, Zhao RG, Wang DX (2008) Relationship between EB virus, Cytomegalo virus, herpes simplex virus and coxsackievirus infection and relapse of **multiple sclerosis**. *Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi* 22(6), 472-4. [Abstract](#)

Boeckh M, Ljungman P (2009) **How we treat cytomegalovirus in hematopoietic cell transplant recipients**. *Blood.* 113(23), 5711-9.

[Buyck HCE](#), [Griffiths PD](#), [Emery VC](#) (2010) [Human cytomegalovirus \(HCMV\) replication kinetics in stem cell transplant recipients following anti-HCMV therapy](#). *Journal of clinical virology : the official publication of the Pan American Society for Clinical Virology*

[Kosugi I](#) (2010) [Cytomegalovirus \(CMV\)](#). *Uirusu* <http://www.nextbio.com/b/search/article.nb?id=21488334>

[Mason GM](#), [Emma Poole E](#), [Patrick Sissons JG](#) et al. (2012) Human cytomegalovirus latency alters the cellular secretome, inducing cluster of differentiation (CD)4<sup>+</sup> T-cell migration and suppression of effector function. Edited by Elliott Kieff, Harvard Medical School and Brigham and Women's Hospital, Boston, MA (received for review March 27, 2012). <http://www.pnas.org/content/109/36/14538.abstract?etoc>

Mekker A, Tchang VS, Haeberli L, Oxenius A, Trkola A, et al. (2012) Immune Senescence: Relative Contributions of Age and Cytomegalovirus Infection. PLoS Pathog 8(8), e1002850.  
<http://f1000.com/717953396>

Rizzo LB, Do Prado CH, Grassi-Oliveira R, Wieck A, Correa BL, Teixeira AL, Bauer ME. (2013) Immunosenescence is associated with human cytomegalovirus and shortened telomeres in type I bipolar disorder. *Bipolar Disord*. 15(8), 832-8. doi: 10.1111/bdi.12121. Epub 2013 Sep 10.  
<http://www.ncbi.nlm.nih.gov/pubmed/24021055>

„These data support the hypothesis of accelerated aging in BD [Bipolar disorder], as shown by shortened telomeres, higher seropositivity for CMV, and expansion of senescent T cells.“

Houenou J, d'Albis MA, Daban C et al (2013) [Cytomegalovirus seropositivity and serointensity are associated with hippocampal volume and verbal memory in schizophrenia and bipolar disorder](#). Progress in neuro-psychopharmacology & biological psychiatry  
„CMV IgG titers are associated with decreased hippocampal volume and poorer episodic verbal memory in patients with schizophrenia or bipolar disorder.“

Kotton CN et al. (2013) **Updated International Consensus Guidelines on the Management of Cytomegalovirus in Solid-Organ Transplantation**. Transplantation. 96(4), 333-60

Razonable RR, Hayden RT (2013) **Clinical utility of viral load in management of cytomegalovirus infection after solid organ transplantation**. *Clinical microbiology reviews*. 26(4), 703-27.

Pearce L (2013) [Lowering risk of CMV](#). Nursing standard (Royal College of Nursing (Great Britain): 1987)

Read more at: <http://medicalxpress.com/news/2012-09-presence-common-infectioncytomegalovirus-helps-virus-susceptibility.html#jCp>

## Coxsackie Virus

Handique SK (2011) Viral infections of the central nervous system. *Neuroimaging Clin N Am* 21(4), 777-94, vii. [Abstract](#)

Swanson W (2012) Birth of a cold war vaccine. [Biography, Historical Article, Journal Article, Portraits] *Sci Am* 306(4), 66-9. [Full Citation](#)

Kalkowska DA, Duintjer Tebbens RJ, Thompson KM (2012) The probability of undetected wild poliovirus circulation after apparent global interruption of transmission. *Am J Epidemiol* 175(9), 936-49. [Abstract](#)

(2012) The persistence of polio. [Editorial] *Nat Med* 18(3), 323. [Full Citation](#)

## Phlebovirus / Bunyavirus

[http://viralzone.expasy.org/all\\_by\\_species/252.html](http://viralzone.expasy.org/all_by_species/252.html) <http://en.wikipedia.org/wiki/Phlebovirus>

Kok KH, Jin DY (2011) A novel bunyavirus causing fever and thrombocytopenia: more questions than answers. *J Formos Med Assoc* 110(11), 669-70. [Full Citation](#)

Wang GQ (2011) Pyrexia and thrombocytopenia syndrome: a novel bunyavirus infectious disease. *Zhonghua Nei Ke Za Zhi* 50(9), 717-8. [Full Citation](#)

Yu X-J, Liang M-F, Zhang S-Y et al. (2011) Fever with Thrombocytopenia Associated with a Novel Bunyavirus in China. *N Engl J Med* 364,1523-1532 <http://www.nejm.org/doi/full/10.1056/NEJMoa1010095>

Bao CJ, Qi X, Wang H (2011) A novel bunyavirus in China. N Engl J Med 365(9),862-3;author reply 864-5. [Full Citation](#)

Buhles W (2011) A novel bunyavirus in China. N Engl J Med 365(9), 864; author reply 864-5. [Full Citation](#)

Magiorkinis G (2011) A novel bunyavirus in China. N Engl J Med 365(9), 864; author reply 864-5. [Full Citation](#)

Li DX (2011) Fever with thrombocytopenia associated with a novel bunyavirus in China. Zhonghua Shi Yan He Lin Chuang Bing Du Xue Za Zhi 25(2), 81-4. [Full Citation](#)

Xu B, Liu L, Huang X et al. (2011) Metagenomic analysis of fever, thrombocytopenia and leukopenia syndrome (FTLS) in Henan Province, China: Discovery of a new Bunyavirus. PLoS Pathog 7(11), e1002369

Yu XL, Jiang XL, Wang T, et al. (2012) Establishment of minireplicon system for severe fever with thrombocytopenia syndrome bunyavirus. Bing Du Xue Bao 28(3), 246-51. [Abstract](#)

Jiang XL, Wang XJ, Li JD, et al. (2012) Isolation, identification and characterization of SFTS bunyavirus from ticks collected on the surface of domestic animals. Bing Du Xue Bao 28(3), 252-7. [Abstract](#)

McMullan LK, Folk SM, Kelly AJ, et al. (2012) A New Phlebovirus Associated with Severe Febrile Illness in Missouri, N Engl J Med 367, 834-841 <http://www.nejm.org/doi/full/10.1056/NEJMoa1203378>

Liu Y, Li Q, Hu W, et al. (2012) Person-to-person transmission of severe fever with thrombocytopenia syndrome virus. Vector Borne Zoonotic Dis 12(2), 156-60. [Abstract](#)

## Human Borna disease virus

Joest E, Degen K (1909) **Über eigentümliche Kerneinschlüsse der Ganglienzellen bei der enzootischen Gehirn-Rückenmarksentzündung der Pferde.** Z.Impfkrkh. Haustiere 6, 348-356

Joest E, Degen K (1911) **Untersuchungen über die pathologische Histologie, Pathogenese und postmortale Diagnoseder seuchenhaften Gehirn-Rückenmarksentzündung (Bornaschen Krankheit) des Pferdes.** Z.Impfkrkh. Haustiere. 9, 1-98

Kao M, Hamir AN, Rupprecht CE et al. (1993) **Detection of antibodies against Borna disease virus in sera and cerebrospinal fluid of horses in the USA.** Veterinary Record 132, 241-244

Bode L, Dürrwald R, Rantam FA et al. (1996) **Isolation of human Borna disease virus.** Proc 10th International Congress of Virology 11-16, Jerusalem

Bode L (1999) **Borna Disease Virus – natürliche Infektion und Krankheit bei Tier und Mensch** [http://web.archive.org/web/20051219165504/http://www.diss.fu-berlin.de/2002/250/bode\\_habil.pdf](http://web.archive.org/web/20051219165504/http://www.diss.fu-berlin.de/2002/250/bode_habil.pdf)

Ludwig H, Bode L (2000) **Borna disease virus: new aspects on infection, disease, diagnosis and epidemiology.** Rev. Sci. Tech, Off. Int. Epiz. 19(1), 259-288 <http://www.oie.int/doc/ged/d9301.pdf>

[Carbone](#) KM (2001) **Borna Disease Virus and Human Disease.** Clin Microbiol Rev. 14(3), 513–527. doi: [10.1128/CMR.14.3.513-527.2001](https://doi.org/10.1128/CMR.14.3.513-527.2001) PMID: PMC88987 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC88987/>

[Hans Ludwig](#) H (2003) **Borna Disease Virus Infection, a Human Mental-Health Risk.** doi: [10.1128/CMR.16.3.534-545.2003](https://doi.org/10.1128/CMR.16.3.534-545.2003) Clin. Microbiol. Rev. 16(3), 534-545 <http://cmr.asm.org/content/16/3/534.long>

Bode L (2007) **Whistleblower-Preis. Bornavirus und Depression** <http://bornavirusinfektion.de/pdf/Dankesrede%20Bode.pdf>



Rackova S, Janu L Kabickova H (2010) **Borna disease virus (BDV) circulating immunocomplex positivity in addicted patients in the Czech Republic: a prospective cohort analysis.** *BMC Psychiatry* 2010, **10**:70 doi:10.1186/1471-244X-10-70 <http://www.biomedcentral.com/1471-244X/10/70>

Ludwig H (2010) **FAQs on Human Borna Disease Virus Infection.** <http://www.diamedis.eu/uploads/download/FAQs,%20BDV,%20Human%20BDV,%20engl.%202010.pdf>

Blaho AJ, Baines JD (2012) **From the Hallowed Halls of Herpesvirology.** A Tribute to Bernard Roizman. World Scientific. ISBN-13 978-981-4338-98-1 [http://www.bornavirusinfektion.de/pdf/Ludwig\\_Bode%202012%20Ch-7\\_ed%20Blaho\\_Baines\\_Latent%20Herpes%20viruses\\_persistent%20Bornavirus-1.pdf](http://www.bornavirusinfektion.de/pdf/Ludwig_Bode%202012%20Ch-7_ed%20Blaho_Baines_Latent%20Herpes%20viruses_persistent%20Bornavirus-1.pdf)

Kinnunen PM, Palva A, Vaheri A, Vapalahti O (2013) **Epidemiology and host spectrum of Borna disease virus infections.** *J Gen Virol.* 94, 247-262. <http://vet.sagepub.com/content/47/2/236.long>

Mazaheri-Tehrani E, Maghsoudi N, Shams J et al. (2014) **Borna disease virus (BDV) infection in psychiatric patients and healthy controls in Iran.** *Virology Journal* 11, 161 doi:10.1186/1743-422X-11-161 <http://www.virologyj.com/content/11/1/161#>

European Center for Disease Prevention and Control. ECDC (2015) **New Bornavirus Strain detected in the EU.** <http://www.ecdc.europa.eu/en/publications/Publications/new-bornavirus-strain-detected-EU-rapid-risk-assessment.pdf>

Bonnaud EM, Szelechowski M, Bétourné A (2015) **Borna disease virus phosphoprotein modulates epigenetic signaling in neurons to control viral replication.** *J Virol.* pii: JVI.00454-15. [Epub ahead of print] <http://www.ncbi.nlm.nih.gov/pubmed/25810554>

Hoffmann B et al. (2015) **A variegated squirrel bornavirus associated with fatal human encephalitis.** *N Engl J Med* 373, 154. (<http://dx.doi.org/10.1056/NEJMoa1415627>) <http://www.jwatch.org/na38367/2015/07/08/bornavirus-associated-with-fatal-human-encephalitis#sthash.xQhOVMmk.dpuf>

➔ **Human Borna disease Virus Therapy** <http://www.xerlebnishaft.de/amantadin.pdf>

## Powassan Virus

Ebel GD (2009) **Update on Powassan Virus: Emergence of a North American Tick-Borne Flavivirus.** *Annual Review of Entomology* 55 (55), 95–100. doi:10.1146/annurev-ento-112408-085446

Pesko KN, Torres-Perez F, Hjelle BL (2010) **Molecular epidemiology of Powassan virus in North America.** *J Gen Virol.* 91(Pt 11), 2698–2705. doi: [10.1099/vir.0.024232-0](http://dx.doi.org/10.1099/vir.0.024232-0) PMID: PMC3052558 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052558/>

Centers for Disease Control and Prevention. (2010). Powassan. Retrieved from <http://www.cdc.gov/powassan/>

Dobler G (2010) **Zoonotic tick-borne flaviviruses.** *Veterinary Microbiology* 140 (3–4), 221–8. doi:10.1016/j.vetmic.2009.08.024. PMID 19765917

Hicar M, Edwards K, Bloch K (2011) **Powassan Virus Infection Presenting as Acute Disseminated Encephalomyelitis In Tennessee.** *The pediatric infectious disease journal* 30 (1), 86–88. doi:10.1097/INF.0b013e3181f2f492.

Birge J, Steven S (2012) **Powassan Virus Encephalitis** 18 (10), 1669–1671.

Subbotina EL, Loktev VB (2012) **Molecular evolution of the tick-borne encephalitis and Powassan viruses.** *Mol. Biol.* 46 (1), 75–84. doi:10.1134/S0026893311060148. PMID 22642104.

Birge J, Sonnesyn S (2012) **Powassan Virus Encephalitis, Minnesota, USA.** [PMC 3471639.](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3471639/)

[PMID 23017222](#). Emerging Infectious Diseases 18 (10), 1669–71. [doi:10.3201/eid1810.120621](#).

Subbotina EL, Loktev VB (2012) **Molecular evolution of the tick-borne encephalitis and Powassan viruses**. Mol. Biol. 46 (1), 75–84. [doi:10.1134/S0026893311060148](#). [PMID 22642104](#). <http://www.ncbi.nlm.nih.gov/pubmed/22642104>

Neitzel DF, Lynfield R, Smith K (2013) **Powassan Virus Encephalitis**. Emerging Infectious Diseases 19 (4), 686. [doi:10.3201/eid1904.121651](#).

[Minnesota Department of Health](#). Powassan. MDH. Retrieved 27 October 2013.

CDC (2014 / 2015) **Powassan Virus**. <http://www.cdc.gov/powassan/>  
**Powassan – Virus Maps humans USA** [http://diseasemaps.usgs.gov/pow\\_us\\_human.html](http://diseasemaps.usgs.gov/pow_us_human.html)

**Powassan virus disease** (2015) <http://www.odh.ohio.gov/pdf/idcm/powa.pdf>

Hermance Meghan E, Thangamani Saravanan (2017) **Vector-Borne and Zoonotic Diseases**. July 2017, 17(7): 453-462. <https://doi.org/10.1089/vbz.2017.2110> 17(7), July 1, 2017

## **Bourbon Virus**

KDHE Office of Communications (2014) [KDHE and CDC Investigate New Virus](#). KDHE Office of Communications.

[New "Bourbon Virus" linked to death](#). (2014) Medical News Network: the University of Kansas Hospital. University of Kansas. <http://www.medicalnewsnetwork.org/NewsNetwork/DocTalk/B/Bourbon%20Virus>

## **ALS Retrovirus**

[Douvelle R](#), [Liu J](#), [Rothstein J](#), [Nath A](#) (2011) **Identification of active loci of a human endogenous retrovirus in neurons of patients with amyotrophic lateral sclerosis**. [Ann Neurol](#). 69(1), 141-51. doi: 10.1002/ana.22149. <http://www.ncbi.nlm.nih.gov/pubmed/21280084>  
«We have identified a specific pattern of HERV-K expression in ALS, which may potentially define the pathophysiology of ALS. Targeting of activated genome-encoded retroviral elements may open new prospects for the treatment of ALS. «

## **MS Retrovirus**

[Garcia-Montojo M](#), [Dominguez-Mozo M](#), [Arias-Leal A](#) et al. (2013) **The DNA copy number of human endogenous retrovirus-W (MSRV-type)** is increased in multiple sclerosis patients and is influenced by gender and disease severity. [PLoS One](#). 8(1), e53623. doi: 10.1371/journal.pone.0053623. <http://www.ncbi.nlm.nih.gov/pubmed/23308264>

“MSRV increases its copy number in PBMC of MS patients and particularly in women with high clinical scores. This may explain causes underlying the higher prevalence of MS in women. The association with the clinical severity calls for further investigations on MSRV load in PBMCs as a biomarker for MS.”

- ➔ **MSRV** [http://ac.els-cdn.com/S0042682299997921/1-s2.0-S0042682299997921-main.pdf?\\_tid=1a58bdc4-4f9a-11e3-99d6-00000aacb361&acdnat=1384701083\\_7c037e9ebe7e39bd42b0ab26be8610a1](http://ac.els-cdn.com/S0042682299997921/1-s2.0-S0042682299997921-main.pdf?_tid=1a58bdc4-4f9a-11e3-99d6-00000aacb361&acdnat=1384701083_7c037e9ebe7e39bd42b0ab26be8610a1)
- ➔ **MSRV** [http://hal.inria.fr/docs/00/06/66/67/PDF/Rolland\\_et\\_al\\_Journal\\_of\\_Immunology\\_In\\_Press.pdf](http://hal.inria.fr/docs/00/06/66/67/PDF/Rolland_et_al_Journal_of_Immunology_In_Press.pdf)

## **Torque teno virus (TTV)**

[Mancuso R](#), [Saresella M](#), [Hernis A](#), [Agostini S](#), [Piancone F](#), [Caputo D](#), [Maggi F](#), [Clerici M](#). (2013) **Torque**

**teno virus (TTV)** in multiple sclerosis patients with different patterns of disease. [J Med Virol.](#) 85(12), 2176-83. doi: 10.1002/jmv.23707. Epub 2013 Aug 19.

### Immunsuppressive Virusarten, weitere Beispiele, more immunosuppressive viruses

<b>Human papillomavirus</b> <b>Hepatitis B und C Virus</b> <b>Humanes Immundefizienz Virus</b> <b>Humanes T-Lymphozytenvirus I und II</b>	<b>Papillome und Karzinome der Haut</b> <b>Leberkrebs</b> <b>Kaposi Sarkom</b> <b>T-Zell Leukämie T-Zell Lymphom</b>
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### Immunsuppressive Bakterien und pleomorphe Formen. Immunosuppressive bacteria and pleomorphic forms

<b>Helicobakter pylori</b>  <b>Fusobakt. fusiforme, Borrelia vincent</b> <b>Vibrio cholerae</b>	<b>Adenocarcinom des Magens, MALT Lymphom,</b> <b>Non Hodkin Lymphom</b> <b>Plattenepithelkarzinom</b> <b>(IPSID), Non Hodkin Lymphom</b>
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<b>Obligat intrazelluläre Krankheitserreger</b>	<b>Fakultativ intrazelluläre Krankheitserreger</b>
<b>Chlamydia spp, Coxiella burnetii,</b> <b>Ehrlichia spp, Erwinia spp,</b> <b>Rickettsia spp, Para-chlamydia</b> <b>spp Mycobakterium leprae,</b> <b>Tropheryma Whipelei, Waddlia</b> <b>etc.</b>	<b>Borrelia spp, Treponemen, Leptospiren, Bartonellen,</b> <b>Mycoplasmen, Brucella spp, Legionella spp, Listeria spp,</b> <b>Mycobacterium spp, Neisseria spp, Salmonella spp,</b> <b>Shigella spp, Yersinia spp, Babesia spp, Toxoplasma,</b> <b>Protomyxzoa spp, Trypanosomen, Streptokokken spp,</b> <b>Candida etc.</b>

McManus M, Cincotta A (2015) **Effects of Borrelia on host immune system: Possible consequences for diagnostics.** Advances in Integrative Medicine  
<http://dx.doi.org/10.1016/j.aimed.2014.11.002>  
<http://www.sciencedirect.com/science/article/pii/S2212962614000601>

➔ **Pleomorphe Formen der Bakterien, Pleomorphic forms of bacteria**  
<http://www.erlebnishaft.de/stressvar1.pdf> <http://www.erlebnishaft.de/stressvar2.pdf>

### Immunsuppressive Protozoen, Immunosuppressive acting protozoa

<b>Shistosoma mansoni, Shistosoma japonicum</b> <b>Plasmodium falciparum</b> <b>Chlonorchis sinensis</b> <b>Opistorchis viverrini</b> <b>Strongyloides stercoralis</b>	<b>Plattenepithelcarcinom der Harnblase</b> <b>Burkitt Lymphom</b> <b>Cholangiocarcinom</b> <b>Cholangiocarcinom</b> <b>T-Zell Leukämie</b>
--	---

Kissler H. (2001) **Is Multiple Sclerosis caused by a silent infection with malarial parasites? Part 1.** Med Hypotheses 57(3), 280-291. <http://www.ncbi.nlm.nih.gov/pubmed/11516218>

Kissler H. (2001) **Is multiple sclerosis caused by a silent infection with malarial parasites? A historico-epidemiological approach: part II.** <http://www.ncbi.nlm.nih.gov/pubmed/11516219>  
„The possible significance of the old and rather forgotten provocative methods for the diagnosis of latent malaria is discussed.“

- ➔ **Chronische Entzündung** <http://www.kabilahsystems.de/antizyt-chem.pdf>
- ➔ **Chronic inflammatory disorders** [http://www.kabilahsystems.de/ko-erreg\\_eupd1.pdf](http://www.kabilahsystems.de/ko-erreg_eupd1.pdf)
  
- ➔ **Mitochondrien** <http://www.xerlebnishaft.de/mitochondrien.pdf>
- ➔ **Zytoskelett** <http://www.xerlebnishaft.de/zytoskelett.pdf>
- ➔ **Symbiogenese** <http://www.erlebnishaft.de/symbiogenese.pdf>
  
- ➔ **Borrelien und Immunsystem** <http://www.erlebnishaft.de/borrelienimmun.pdf>
  
- ➔ **Krebsstammzellen** <http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>

### Schutz durch Virusarten, protective virus types

Bhat RK, Rudnick W, Antony JM, Maingat F, Ellestad KK, et al. (2014) **Human Endogenous Retrovirus-K(II) Envelope Induction Protects Neurons during HIV/AIDS.** PLoS ONE 9(7), e97984. doi:10.1371/journal.pone.0097984 <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0097984>

- ➔ **Seneca valley virus, MikroRNAs** <http://www.xerlebnishaft.de/krebsstammzelltherapie.pdf>

[Bernt - Dieter Huismans](#). Letzte Revision August 2017 [www.Huismans.click](http://www.Huismans.click)



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