

ERRATA

HUMAN CYTOMEGALOVIRUS IN CONGENITAL INFECTIONS AND EMBRYONAL MALIGNANCIES OF THE NERVOUS SYSTEM

Page 9, LIST OF PUBLICATIONS

Change

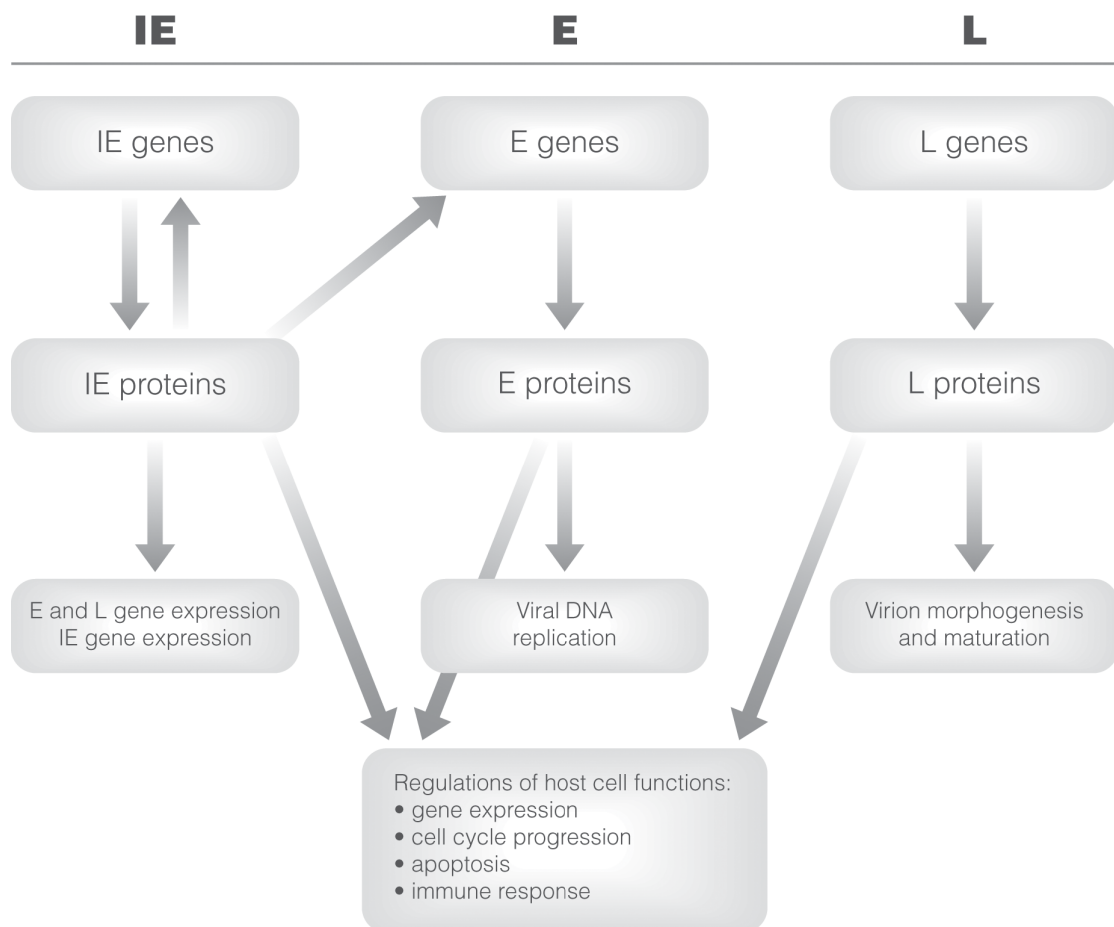
IV. High prevalence of HCMV in medulloblastoma; reduced tumor growth using valganciclovir and celecoxib.

to

IV. Combination therapy with a cox-2 inhibitor and oral Valganciclovir radically reduces growth of medulloblastoma tumors *in vitro* and *in vivo*.

Page 22, Figure 3

Change to



Page 64, second paragraph, line four.

Change “pyrophosphate analogy” to “pyrophosphate analogue”

Page 68, first paragraph, last sentence.

Remove “wherefore the animals where had to be euthanized two days earlier than the medulloblastomas.”

Paper III, Figure legends, figure legend 2 heading.

Change “HCMV late genes upregulates COX-2 mRNA and protein in neuroblastoma cells.” to “HCMV IE/E genes upregulate COX-2 mRNA and protein in neuroblastoma cells.”

Paper III, Figure legends, figure legend 3, line 4.

Change “dependent manner in SH-SY5Y and SK-N-BE (B-C) but not in SK-N-AS (A)” to “dependent manner in SH-SY5Y and SK-N-BE (A,C) but not in SK-N-AS (B).”

Paper IV, Abstract, second sentence.

Change “Human cytomegalovirus (HCMV) is a herpesvirus that can transform cells and dysregulate many cellular pathways and has recently been detected in tumors of different origin.” to “Human cytomegalovirus (HCMV) is a herpesvirus that can dysregulate many cellular pathways and has recently been detected in tumors of different origin.”

Paper IV, Introduction, third paragraph.

Change “This because HCMV has been shown to transform cells through several potential mechanisms like control of cell differentiation, proliferation, inhibition of apoptosis and control of immunological functions” to “This because HCMV has been shown to mediate several oncomodulatory mechanisms like control of cell differentiation, proliferation, inhibition of apoptosis and control of immunological functions”

Paper IV, Figure legends, figure legend 2.

Change to

Figure 2. Inhibition of HCMV replication impairs growth of medulloblastoma cells through inhibition of PGE₂ production

(A-C) Ganciclovir impairs the clonogenic capacity of medulloblastoma cells. D324 MED, D283 MED and UW228-3 cells were treated with 75 or 150 μ M ganciclovir for 48 hours. Cells were then incubated in drug-free medium for 7 days and colonies (> 75 cells) with 50% plate efficiency (PE) were counted. Each experimental point was performed in triplicate. The experiment was repeated three times with similar results. The graph shows \pm SD for percent proliferation of MB cells compared to untreated cells (100%). (D) Both IE and late gene pp150 is expressed in D324MED upon *in vitro* infection by HCMV VR1814 at MOI 10, as shown by quantitative PCR at 3 dpi. (E) HCMV super-infection increases PGE₂ production in medulloblastoma cells. D324 MED cells were infected with HCMV at a MOI of 10 for three days and cells were harvested for PGE₂ measurement. (F) D324 MED cells were treated with either 2.5 or 5 mM ganciclovir. After treatment cells were harvested and PGE₂ secretion was measured.

Paper IV, Figure legends, figure legend 3.

Change to

Figure 3. Ganciclovir significantly augments the inhibition of clonogenic capacity of medulloblastoma cells in combination with the COX-2 inhibitor celecoxib

(A-C) D324 MED, D283 MED and UW228-3 cells were either infected with HCMV at a MOI of 10 for three days or no virus before they were incubated with 75 μ M ganciclovir, 10 μ M celecoxib or a combination of 75 μ M ganciclovir and 10 μ M celecoxib. Cells were then incubated in drug-free medium for 7 days and colonies (> 75 cells) with 50% plate efficiency (PE) were counted. Each experimental point was performed in triplicate. The experiment was repeated three times with similar results. The graph shows \pm SD for percent proliferation of MB cells compared to untreated cells (100%). The bar graph shows \pm SD. * P <0,05, ** P <0,001.

Paper IV, Figure legends, figure legend 4.

Change to

Figure 4. Valganciclovir augments the anti-tumorigenic effect of the COX-2 inhibitor celecoxib on medulloblastoma growth *in vivo*

(A) 100mg/kg Valganciclovir was administered orally to NMRI nu/nu mice and plasma concentrations of ganciclovir was measured during 24 hours to determine plasma pharmacokinetics of valganciclovir in this setting. NMRI nu/nu mice were engrafted with 10×10^6 D283 MED cells subcutaneously and randomized to receive either 14 mg/kg valganciclovir twice daily (n=10), 90 mg/kg celecoxib (n=12), a combination of both (n=9) or no treatment (n=10). All treatments were given orally through gastric feeding tube daily for 10 days starting at the appearance of palpable tumors of approximately 0.10 mL (mean 0.13 mL). (B) Comparison of tumor volume index. (C) Comparison of tumor weights. (D) Immunohistochemical staining of untreated xenograft tumors. HCMV late proteins and actin were detected in established xenografts.

REFERENCES

1. Dudgeon, J.A., *Cytomegalovirus infection*. Arch Dis Child, 1971. **46**(249): p. 581-3.
2. Riley, H.D., Jr., *History of the cytomegalovirus*. South Med J, 1997. **90**(2): p. 184-90.
3. Reddehase, M.J., *From protozoan to proteomics*, in *Cytomegaloviruses. Molecular Biology and Immunology*, M.J. Reddehase, Editor. 2006, Caister Academic press. p. xxiv-xxv.
4. Roizman, B.a.P., Philip, E., *The family Herpes Viridae: A brief introduction*, in *Fields Virology*, D. Knipe, M., and Howley, Peter, M., Editor. 2001. p. 2381-2397.
5. Soderberg-Naucler, C., K.N. Fish, and J.A. Nelson, *Reactivation of latent human cytomegalovirus by allogeneic stimulation of blood cells from healthy donors*. Cell, 1997. **91**(1): p. 119-26.
6. Koszinowski, U., H., *Résumé and Visions: From CMV Today to CMV Tomorrow*, in *Cytomegaloviruses. Molecular biology and immunology*, M.J. Reddehase, Editor. 2006, Caister Academic Press. p. 607-610.
7. Simon, C.O., Seckert, Christof K., Grzimek, Natascha K.A., Reddehase, Mattias J., *Murine Model of Cytomegalovirus Latency and Reactivation: the ilencing/Desilencing and Immune Sensing Hypothesis in Cytomegaloviruses. Molecular biology and immunology*, M.J. Reddehase, Editor. 2006, Caister Academic Press
 . p. 483-500.
8. Landolfo, S., et al., *The human cytomegalovirus*. Pharmacol Ther, 2003. **98**(3): p. 269-97.
9. Sinzger, C. and G. Jahn, *Human cytomegalovirus cell tropism and pathogenesis*. Intervirology, 1996. **39**(5-6): p. 302-19.
10. Gilbert, G.L., et al., *Prevention of transfusion-acquired cytomegalovirus infection in infants by blood filtration to remove leucocytes. Neonatal Cytomegalovirus Infection Study Group*. Lancet, 1989. **1**(8649): p. 1228-31.
11. Penfold, M.E., et al., *Cytomegalovirus encodes a potent alpha chemokine*. Proc Natl Acad Sci U S A, 1999. **96**(17): p. 9839-44.
12. Adler, S.P., *Cytomegalovirus and child day care. Evidence for an increased infection rate among day-care workers*. N Engl J Med, 1989. **321**(19): p. 1290-6.

13. Pass, R.F., et al., *Increased rate of cytomegalovirus infection among day care center workers*. *Pediatr Infect Dis J*, 1990. **9**(7): p. 465-70.
14. Hutto, C., et al., *Epidemiology of cytomegalovirus infections in young children: day care vs. home care*. *Pediatr Infect Dis*, 1985. **4**(2): p. 149-52.
15. Adler, S.P., *Cytomegalovirus transmission and child day care*. *Adv Pediatr Infect Dis*, 1992. **7**: p. 109-22.
16. Grillner, L. and K. Strangert, *A prospective molecular epidemiological study of cytomegalovirus infections in two day care centers in Sweden: no evidence for horizontal transmission within the centers*. *J Infect Dis*, 1988. **157**(5): p. 1080-3.
17. Pass, R., F., *Cytomegalovirus*, in *Fields Virology*, D. Knipe, M. and Howley, Peter, M., Editor. 2001, Lippincott, Williams and Wilkins. p. 2675-2705.
18. Shanley, J.D., L. Biczak, and S.J. Forman, *Acute murine cytomegalovirus infection induces lethal hepatitis*. *J Infect Dis*, 1993. **167**(2): p. 264-9.
19. Lockridge, K.M., et al., *Pathogenesis of experimental rhesus cytomegalovirus infection*. *J Virol*, 1999. **73**(11): p. 9576-83.
20. Krmpotic, A., et al., *Pathogenesis of murine cytomegalovirus infection*. *Microbes Infect*, 2003. **5**(13): p. 1263-77.
21. Biron, C.A. and L. Brossay, *NK cells and NKT cells in innate defense against viral infections*. *Curr Opin Immunol*, 2001. **13**(4): p. 458-64.
22. Biron, C.A., K.S. Byron, and J.L. Sullivan, *Severe herpesvirus infections in an adolescent without natural killer cells*. *N Engl J Med*, 1989. **320**(26): p. 1731-5.
23. Zaia, J.A., et al., *Infrequent occurrence of natural mutations in the pp65(495-503) epitope sequence presented by the HLA A*0201 allele among human cytomegalovirus isolates*. *J Virol*, 2001. **75**(5): p. 2472-4.
24. Rahbar, A., et al., *Evidence of active cytomegalovirus infection and increased production of IL-6 in tissue specimens obtained from patients with inflammatory bowel diseases*. *Inflamm Bowel Dis*, 2003. **9**(3): p. 154-61.
25. Hollink, N., et al., *High prevalence of an active human cytomegalovirus infection in patients with colonic diverticulitis*. *J Clin Virol*, 2007. **40**(2): p. 116-9.
26. Su, B.Y., et al., *Incidental discovery of high systemic lupus erythematosus disease activity associated with cytomegalovirus viral activity*. *Med Microbiol Immunol*, 2007. **196**(3): p. 165-70.
27. Fasth, A.E., et al., *T cell infiltrates in the muscles of patients with dermatomyositis and polymyositis are dominated by CD28(null) T cells*. *J Immunol*, 2009. **183**(7): p. 4792-9.

28. Soderberg-Naucler, C., *Does cytomegalovirus play a causative role in the development of various inflammatory diseases and cancer?* J Intern Med, 2006. **259**(3): p. 219-46.
29. Streblow, D.N., S.L. Orloff, and J.A. Nelson, *Do pathogens accelerate atherosclerosis?* J Nutr, 2001. **131**(10): p. 2798S-2804S.
30. Libby, P., P.M. Ridker, and A. Maseri, *Inflammation and atherosclerosis.* Circulation, 2002. **105**(9): p. 1135-43.
31. Libby, P., *Vascular biology of atherosclerosis: overview and state of the art.* Am J Cardiol, 2003. **91**(3A): p. 3A-6A.
32. O'Connor, S., et al., *Potential infectious etiologies of atherosclerosis: a multifactorial perspective.* Emerg Infect Dis, 2001. **7**(5): p. 780-8.
33. Cope, A.V., et al., *Interrelationships among quantity of human cytomegalovirus (HCMV) DNA in blood, donor-recipient serostatus, and administration of methylprednisolone as risk factors for HCMV disease following liver transplantation.* J Infect Dis, 1997. **176**(6): p. 1484-90.
34. Emery, V.C., *Viral dynamics during active cytomegalovirus infection and pathology.* Intervirology, 1999. **42**(5-6): p. 405-11.
35. Emery, V.C., et al., *Application of viral-load kinetics to identify patients who develop cytomegalovirus disease after transplantation.* Lancet, 2000. **355**(9220): p. 2032-6.
36. Gewurz, B.E., et al., *Human cytomegalovirus US2 endoplasmic reticulum-lumenal domain dictates association with major histocompatibility complex class I in a locus-specific manner.* J Virol, 2001. **75**(11): p. 5197-204.
37. Spector, S.A., et al., *Cytomegalovirus (CMV) DNA load is an independent predictor of CMV disease and survival in advanced AIDS.* J Virol, 1999. **73**(8): p. 7027-30.
38. Brune, W., et al., *Secreted virus-encoded proteins reflect murine cytomegalovirus productivity in organs.* J Infect Dis, 2001. **184**(10): p. 1320-4.
39. Kovacs, A., et al., *Cytomegalovirus infection and HIV-1 disease progression in infants born to HIV-1-infected women. Pediatric Pulmonary and Cardiovascular Complications of Vertically Transmitted HIV Infection Study Group.* N Engl J Med, 1999. **341**(2): p. 77-84.
40. Deayton, J.R., *Changing trends in cytomegalovirus disease in HIV-infected patients.* Herpes, 2001. **8**(2): p. 37-40.
41. Detels, R., et al., *Effectiveness of potent antiretroviral therapies on the incidence of opportunistic infections before and after AIDS diagnosis.* Aids, 2001. **15**(3): p. 347-55.

42. Ledergerber, B., et al., *AIDS-related opportunistic illnesses occurring after initiation of potent antiretroviral therapy: the Swiss HIV Cohort Study*. *Jama*, 1999. **282**(23): p. 2220-6.
43. Schmolke, S., et al., *The dominant phosphoprotein pp65 (UL83) of human cytomegalovirus is dispensable for growth in cell culture*. *J Virol*, 1995. **69**(10): p. 5959-68.
44. Bresnahan, W.A. and T. Shenk, *A subset of viral transcripts packaged within human cytomegalovirus particles*. *Science*, 2000. **288**(5475): p. 2373-6.
45. Margulies, B.J., H. Browne, and W. Gibson, *Identification of the human cytomegalovirus G protein-coupled receptor homologue encoded by UL33 in infected cells and enveloped virus particles*. *Virology*, 1996. **225**(1): p. 111-25.
46. Chee, M.S., et al., *Human cytomegalovirus encodes three G protein-coupled receptor homologues*. *Nature*, 1990. **344**(6268): p. 774-7.
47. Gompels, U.A., et al., *The DNA sequence of human herpesvirus-6: structure, coding content, and genome evolution*. *Virology*, 1995. **209**(1): p. 29-51.
48. Baldick, C.J., Jr. and T. Shenk, *Proteins associated with purified human cytomegalovirus particles*. *J Virol*, 1996. **70**(9): p. 6097-105.
49. Grundy, J.E., et al., *Beta 2 microglobulin enhances the infectivity of cytomegalovirus and when bound to the virus enables class I HLA molecules to be used as a virus receptor*. *J Gen Virol*, 1987. **68 (Pt 3)**: p. 793-803.
50. Michelson, S., et al., *A human cytomegalovirus-neutralizing monoclonal antibody recognizes a normal cell protein*. *J Gen Virol*, 1989. **70 (Pt 3)**: p. 673-84.
51. Compton, T., D.M. Nowlin, and N.R. Cooper, *Initiation of human cytomegalovirus infection requires initial interaction with cell surface heparan sulfate*. *Virology*, 1993. **193**(2): p. 834-41.
52. Adlish, J.D., R.S. Lahijani, and S.C. St Jeor, *Identification of a putative cell receptor for human cytomegalovirus*. *Virology*, 1990. **176**(2): p. 337-45.
53. Taylor, H.P. and N.R. Cooper, *The human cytomegalovirus receptor on fibroblasts is a 30-kilodalton membrane protein*. *J Virol*, 1990. **64**(6): p. 2484-90.
54. Nowlin, D.M., N.R. Cooper, and T. Compton, *Expression of a human cytomegalovirus receptor correlates with infectibility of cells*. *J Virol*, 1991. **65**(6): p. 3114-21.
55. Pietropaolo, R.L. and T. Compton, *Direct interaction between human cytomegalovirus glycoprotein B and cellular annexin II*. *J Virol*, 1997. **71**(12): p. 9803-7.

56. Pietropaolo, R. and T. Compton, *Interference with annexin II has no effect on entry of human cytomegalovirus into fibroblast cells*. J Gen Virol, 1999. **80 (Pt 7)**: p. 1807-16.
57. Soderberg, C., et al., *CD13 (human aminopeptidase N) mediates human cytomegalovirus infection*. J Virol, 1993. **67**(11): p. 6576-85.
58. Giugni, T.D., et al., *Neutralization of human cytomegalovirus by human CD13-specific antibodies*. J Infect Dis, 1996. **173**(5): p. 1062-71.
59. Wang, X., et al., *Epidermal growth factor receptor is a cellular receptor for human cytomegalovirus*. Nature, 2003. **424**(6947): p. 456-61.
60. Isaacson, M.K., A.L. Feire, and T. Compton, *Epidermal growth factor receptor is not required for human cytomegalovirus entry or signaling*. J Virol, 2007. **81**(12): p. 6241-7.
61. Feire, A.L., H. Koss, and T. Compton, *Cellular integrins function as entry receptors for human cytomegalovirus via a highly conserved disintegrin-like domain*. Proc Natl Acad Sci U S A, 2004. **101**(43): p. 15470-5.
62. Wang, X., et al., *Integrin alphavbeta3 is a coreceptor for human cytomegalovirus*. Nat Med, 2005. **11**(5): p. 515-21.
63. Kalejta, R.F., *Tegument proteins of human cytomegalovirus*. Microbiol Mol Biol Rev, 2008. **72**(2): p. 249-65, table of contents.
64. Wathen, M.W., D.R. Thomsen, and M.F. Stinski, *Temporal regulation of human cytomegalovirus transcription at immediate early and early times after infection*. J Virol, 1981. **38**(2): p. 446-59.
65. Meier, J.L. and M.F. Stinski, *Regulation of human cytomegalovirus immediate-early gene expression*. Intervirology, 1996. **39**(5-6): p. 331-42.
66. Baldick, C.J., Jr., et al., *Human cytomegalovirus tegument protein pp71 (ppUL82) enhances the infectivity of viral DNA and accelerates the infectious cycle*. J Virol, 1997. **71**(6): p. 4400-8.
67. Stinski, M.F., et al., *Organization and expression of the immediate early genes of human cytomegalovirus*. J Virol, 1983. **46**(1): p. 1-14.
68. Skepper, J.N., et al., *Herpes simplex virus nucleocapsids mature to progeny virions by an envelopment --> deenvelopment --> reenvelopment pathway*. J Virol, 2001. **75**(12): p. 5697-702.
69. Mettenleiter, T.C., *Herpesvirus assembly and egress*. J Virol, 2002. **76**(4): p. 1537-47.
70. Siminoff, P. and M.G. Menefee, *Normal and 5-bromodeoxyuridine-inhibited development of herpes simplex virus. An electron microscope study*. Exp Cell Res, 1966. **44**(2): p. 241-55.

71. Sanchez, V., et al., *Accumulation of virion tegument and envelope proteins in a stable cytoplasmic compartment during human cytomegalovirus replication: characterization of a potential site of virus assembly.* J Virol, 2000. **74**(2): p. 975-86.
72. Homman-Loudiyi, M., et al., *Envelopment of human cytomegalovirus occurs by budding into Golgi-derived vacuole compartments positive for gB, Rab 3, trans-golgi network 46, and mannosidase II.* J Virol, 2003. **77**(5): p. 3191-203.
73. Eggers, M., et al., *Inhibition of human cytomegalovirus maturation by brefeldin A.* J Gen Virol, 1992. **73 (Pt 10)**: p. 2679-92.
74. Adler, B., et al., *Role of human cytomegalovirus UL131A in cell type-specific virus entry and release.* J Gen Virol, 2006. **87**(Pt 9): p. 2451-60.
75. Jiang, X.J., et al., *UL74 of human cytomegalovirus contributes to virus release by promoting secondary envelopment of virions.* J Virol, 2008. **82**(6): p. 2802-12.
76. Sinclair, J. and P. Sissons, *Latency and reactivation of human cytomegalovirus.* J Gen Virol, 2006. **87**(Pt 7): p. 1763-79.
77. Bolovan-Fritts, C.A., E.S. Mocarski, and J.A. Wiedeman, *Peripheral blood CD14(+) cells from healthy subjects carry a circular conformation of latent cytomegalovirus genome.* Blood, 1999. **93**(1): p. 394-8.
78. Slobedman, B. and E.S. Mocarski, *Quantitative analysis of latent human cytomegalovirus.* J Virol, 1999. **73**(6): p. 4806-12.
79. Larsson, S., et al., *Cytomegalovirus DNA can be detected in peripheral blood mononuclear cells from all seropositive and most seronegative healthy blood donors over time.* Transfusion, 1998. **38**(3): p. 271-8.
80. Tsutsui, Y., H. Kawasaki, and I. Kosugi, *Reactivation of latent cytomegalovirus infection in mouse brain cells detected after transfer to brain slice cultures.* J Virol, 2002. **76**(14): p. 7247-54.
81. Reeves, M.B., et al., *Vascular endothelial and smooth muscle cells are unlikely to be major sites of latency of human cytomegalovirus in vivo.* J Gen Virol, 2004. **85**(Pt 11): p. 3337-41.
82. Reeves, M.B., et al., *Latency, chromatin remodeling, and reactivation of human cytomegalovirus in the dendritic cells of healthy carriers.* Proc Natl Acad Sci U S A, 2005. **102**(11): p. 4140-5.
83. Gaytant, M.A., et al., *Congenital cytomegalovirus infection: review of the epidemiology and outcome.* Obstet Gynecol Surv, 2002. **57**(4): p. 245-56.
84. van der Sande, M.A., et al., *Risk factors for and clinical outcome of congenital cytomegalovirus infection in a peri-urban West-African birth cohort.* PLoS One, 2007. **2**(6): p. e492.

85. Kaye, S., et al., *Virological and immunological correlates of mother-to-child transmission of cytomegalovirus in The Gambia*. J Infect Dis, 2008. **197**(9): p. 1307-14.
86. Ahlfors, K., *Epidemiological studies of congenital cytomegalovirus infection*. Scand J Infect Dis Suppl, 1982. **34**: p. 1-36.
87. Stagno, S., et al., *Congenital cytomegalovirus infection: The relative importance of primary and recurrent maternal infection*. N Engl J Med, 1982. **306**(16): p. 945-9.
88. Boppana, S.B., et al., *Symptomatic congenital cytomegalovirus infection in infants born to mothers with preexisting immunity to cytomegalovirus*. Pediatrics, 1999. **104**(1 Pt 1): p. 55-60.
89. Ahlfors, K., S.A. Ivarsson, and S. Harris, *Report on a long-term study of maternal and congenital cytomegalovirus infection in Sweden. Review of prospective studies available in the literature*. Scand J Infect Dis, 1999. **31**(5): p. 443-57.
90. Mussi-Pinhata, M.M., et al., *Birth prevalence and natural history of congenital cytomegalovirus infection in a highly seroimmune population*. Clin Infect Dis, 2009. **49**(4): p. 522-8.
91. Engman, M.L., et al., *Congenital CMV infection: prevalence in newborns and the impact on hearing deficit*. Scand J Infect Dis, 2008. **40**(11-12): p. 935-42.
92. Ogawa, H., et al., *Etiology of severe sensorineural hearing loss in children: independent impact of congenital cytomegalovirus infection and GJB2 mutations*. J Infect Dis, 2007. **195**(6): p. 782-8.
93. Markowitz, P.I., *Autism in a child with congenital cytomegalovirus infection*. J Autism Dev Disord, 1983. **13**(3): p. 249-53.
94. Moises, H.W., et al., *Human cytomegalovirus DNA in the temporal cortex of a schizophrenic patient*. Eur Arch Psychiatry Neurol Sci, 1988. **238**(2): p. 110-3.
95. Malm, G. and M.L. Engman, *Congenital cytomegalovirus infections*. Semin Fetal Neonatal Med, 2007. **12**(3): p. 154-9.
96. Cheeran, M.C., J.R. Lokensgard, and M.R. Schleiss, *Neuropathogenesis of congenital cytomegalovirus infection: disease mechanisms and prospects for intervention*. Clin Microbiol Rev, 2009. **22**(1): p. 99-126, Table of Contents.
97. Ross, S.A., et al., *Cytomegalovirus blood viral load and hearing loss in young children with congenital infection*. Pediatr Infect Dis J, 2009. **28**(7): p. 588-92.

98. Revello, M.G., et al., *Diagnostic and prognostic value of human cytomegalovirus load and IgM antibody in blood of congenitally infected newborns*. J Clin Virol, 1999. **14**(1): p. 57-66.
99. Lanari, M., et al., *Neonatal cytomegalovirus blood load and risk of sequelae in symptomatic and asymptomatic congenitally infected newborns*. Pediatrics, 2006. **117**(1): p. e76-83.
100. Lazzarotto, T., et al., *Prenatal indicators of congenital cytomegalovirus infection*. J Pediatr, 2000. **137**(1): p. 90-5.
101. Jones, C.A., *Congenital cytomegalovirus infection*. Curr Probl Pediatr Adolesc Health Care, 2003. **33**(3): p. 70-93.
102. Barkovich, A.J. and N. Girard, *Fetal brain infections*. Childs Nerv Syst, 2003. **19**(7-8): p. 501-7.
103. Faqi, A.S., et al., *Ganciclovir induces reproductive hazards in male rats after short-term exposure*. Hum Exp Toxicol, 1997. **16**(9): p. 505-11.
104. Klug, S., et al., *In vitro and in vivo studies on the prenatal toxicity of five virustatic nucleoside analogues in comparison to aciclovir*. Arch Toxicol, 1991. **65**(4): p. 283-91.
105. Pescovitz, M.D., *Absence of teratogenicity of oral ganciclovir used during early pregnancy in a liver transplant recipient*. Transplantation, 1999. **67**(5): p. 758-9.
106. Reigstad, H., et al., *Ganciclovir therapy of congenital cytomegalovirus disease*. Acta Paediatr, 1992. **81**(9): p. 707-8.
107. Whitley, R.J., et al., *Ganciclovir treatment of symptomatic congenital cytomegalovirus infection: results of a phase II study*. National Institute of Allergy and Infectious Diseases Collaborative Antiviral Study Group. J Infect Dis, 1997. **175**(5): p. 1080-6.
108. Kimberlin, D.W., et al., *Effect of ganciclovir therapy on hearing in symptomatic congenital cytomegalovirus disease involving the central nervous system: a randomized, controlled trial*. J Pediatr, 2003. **143**(1): p. 16-25.
109. Negishi, H., et al., *Intraperitoneal administration of cytomegalovirus hyperimmunoglobulin to the cytomegalovirus-infected fetus*. J Perinatol, 1998. **18**(6 Pt 1): p. 466-9.
110. Nigro, G., et al., *Hyperimmunoglobulin therapy for a twin fetus with cytomegalovirus infection and growth restriction*. Am J Obstet Gynecol, 1999. **180**(5): p. 1222-6.
111. Revello, M.G. and G. Gerna, *Diagnosis and management of human cytomegalovirus infection in the mother, fetus, and newborn infant*. Clin Microbiol Rev, 2002. **15**(4): p. 680-715.

112. Adler, S.P., et al., *Prevention of child-to-mother transmission of cytomegalovirus among pregnant women*. J Pediatr, 2004. **145**(4): p. 485-91.
113. Picone, O., et al., *A 2-year study on cytomegalovirus infection during pregnancy in a French hospital*. BJOG, 2009. **116**(6): p. 818-23.
114. Adler, S.P., G. Nigro, and L. Pereira, *Recent advances in the prevention and treatment of congenital cytomegalovirus infections*. Semin Perinatol, 2007. **31**(1): p. 10-8.
115. Cannon, M.J. and K.F. Davis, *Washing our hands of the congenital cytomegalovirus disease epidemic*. BMC Public Health, 2005. **5**: p. 70.
116. Straat, K., et al., *Infection with human cytomegalovirus alters the MMP-9/TIMP-1 balance in human macrophages*. J Virol, 2009. **83**(2): p. 830-5.
117. Roth, I. and S.J. Fisher, *IL-10 is an autocrine inhibitor of human placental cytotrophoblast MMP-9 production and invasion*. Dev Biol, 1999. **205**(1): p. 194-204.
118. Zhang, Y., et al., *Change of peripheral blood mononuclear cells IFN-gamma, IL-10, and TGF-beta1 mRNA expression levels with active human cytomegalovirus infection in orthotopic liver transplantation*. Transplant Proc, 2009. **41**(5): p. 1767-9.
119. Kotenko, S.V., et al., *Human cytomegalovirus harbors its own unique IL-10 homolog (cmvIL-10)*. Proc Natl Acad Sci U S A, 2000. **97**(4): p. 1695-700.
120. Griffith, B.P., et al., *The placenta as a site of cytomegalovirus infection in guinea pigs*. J Virol, 1985. **55**(2): p. 402-9.
121. McDonagh, S., et al., *Viral and bacterial pathogens at the maternal-fetal interface*. J Infect Dis, 2004. **190**(4): p. 826-34.
122. Schmidbauer, M., et al., *Cytomegalovirus (CMV) disease of the brain in AIDS and connatal infection: a comparative study by histology, immunocytochemistry and in situ DNA hybridization*. Acta Neuropathol, 1989. **79**(3): p. 286-93.
123. Li, R.Y. and Y. Tsutsui, *Growth retardation and microcephaly induced in mice by placental infection with murine cytomegalovirus*. Teratology, 2000. **62**(2): p. 79-85.
124. Kawasaki, H., et al., *The amount of immature glial cells in organotypic brain slices determines the susceptibility to murine cytomegalovirus infection*. Lab Invest, 2002. **82**(10): p. 1347-58.
125. McCarthy, M., D. Auger, and S.R. Whittemore, *Human cytomegalovirus causes productive infection and neuronal injury in differentiating fetal human central nervous system neuroepithelial precursor cells*. J Hum Virol, 2000. **3**(4): p. 215-28.

126. Cheeran, M.C., et al., *Neural precursor cell susceptibility to human cytomegalovirus diverges along glial or neuronal differentiation pathways*. J Neurosci Res, 2005. **82**(6): p. 839-50.
127. Luo, M.H., P.H. Schwartz, and E.A. Fortunato, *Neonatal neural progenitor cells and their neuronal and glial cell derivatives are fully permissive for human cytomegalovirus infection*. J Virol, 2008. **82**(20): p. 9994-10007.
128. Kosugi, I., et al., *Cytomegalovirus infection of the central nervous system stem cells from mouse embryo: a model for developmental brain disorders induced by cytomegalovirus*. Lab Invest, 2000. **80**(9): p. 1373-83.
129. Shinmura, Y., et al., *Disordered migration and loss of virus-infected neuronal cells in developing mouse brains infected with murine cytomegalovirus*. Acta Neuropathol, 1997. **93**(6): p. 551-7.
130. Carpenter, M.K., et al., *In vitro expansion of a multipotent population of human neural progenitor cells*. Exp Neurol, 1999. **158**(2): p. 265-78.
131. Tsutsui, Y., *Effects of cytomegalovirus infection on embryogenesis and brain development*. Congenit Anom (Kyoto), 2009. **49**(2): p. 47-55.
132. Tsutsui, Y., et al., *Roles of neural stem progenitor cells in cytomegalovirus infection of the brain in mouse models*. Pathol Int, 2008. **58**(5): p. 257-67.
133. Tsai, R.Y. and R.D. McKay, *Cell contact regulates fate choice by cortical stem cells*. J Neurosci, 2000. **20**(10): p. 3725-35.
134. Lokensgard, J.R., et al., *Human cytomegalovirus replication and modulation of apoptosis in astrocytes*. J Hum Virol, 1999. **2**(2): p. 91-101.
135. Shinmura, Y., et al., *Differential expression of the immediate-early and early antigens in neuronal and glial cells of developing mouse brains infected with murine cytomegalovirus*. Am J Pathol, 1997. **151**(5): p. 1331-40.
136. Kosugi, I., et al., *Innate immune responses to cytomegalovirus infection in the developing mouse brain and their evasion by virus-infected neurons*. Am J Pathol, 2002. **161**(3): p. 919-28.
137. Brown, M.G., et al., *Vital involvement of a natural killer cell activation receptor in resistance to viral infection*. Science, 2001. **292**(5518): p. 934-7.
138. Jonjic, S., et al., *A nonstructural viral protein expressed by a recombinant vaccinia virus protects against lethal cytomegalovirus infection*. J Virol, 1988. **62**(5): p. 1653-8.
139. Koszinowski, U.H., M.J. Reddehase, and S. Jonjic, *The role of CD4 and CD8 T cells in viral infections*. Curr Opin Immunol, 1991. **3**(4): p. 471-5.
140. Moss, P. and N. Khan, *CD8(+) T-cell immunity to cytomegalovirus*. Hum Immunol, 2004. **65**(5): p. 456-64.

141. Kern, F., et al., *Target structures of the CD8(+)-T-cell response to human cytomegalovirus: the 72-kilodalton major immediate-early protein revisited*. J Virol, 1999. **73**(10): p. 8179-84.
142. Kern, F., et al., *Cytomegalovirus (CMV) phosphoprotein 65 makes a large contribution to shaping the T cell repertoire in CMV-exposed individuals*. J Infect Dis, 2002. **185**(12): p. 1709-16.
143. Reusser, P., et al., *Cytotoxic T-lymphocyte response to cytomegalovirus after human allogeneic bone marrow transplantation: pattern of recovery and correlation with cytomegalovirus infection and disease*. Blood, 1991. **78**(5): p. 1373-80.
144. Riddell, S.R., et al., *Restoration of viral immunity in immunodeficient humans by the adoptive transfer of T cell clones*. Science, 1992. **257**(5067): p. 238-41.
145. Pavic, I., et al., *Participation of endogenous tumour necrosis factor alpha in host resistance to cytomegalovirus infection*. J Gen Virol, 1993. **74** (Pt 10): p. 2215-23.
146. Le Roy, E., et al., *Infection of APC by human cytomegalovirus controlled through recognition of endogenous nuclear immediate early protein 1 by specific CD4(+) T lymphocytes*. J Immunol, 2002. **169**(3): p. 1293-301.
147. Landini, M.P., E. Rossier, and H. Schmitz, *Antibodies to human cytomegalovirus structural polypeptides during primary infection*. J Virol Methods, 1988. **22**(2-3): p. 309-17.
148. Jonjic, S., et al., *Antibodies are not essential for the resolution of primary cytomegalovirus infection but limit dissemination of recurrent virus*. J Exp Med, 1994. **179**(5): p. 1713-7.
149. Furman, M.H., et al., *The human cytomegalovirus US10 gene product delays trafficking of major histocompatibility complex class I molecules*. J Virol, 2002. **76**(22): p. 11753-6.
150. Loenen, W.A., C.A. Bruggeman, and E.J. Wiertz, *Immune evasion by human cytomegalovirus: lessons in immunology and cell biology*. Semin Immunol, 2001. **13**(1): p. 41-9.
151. Tomazin, R., et al., *Cytomegalovirus US2 destroys two components of the MHC class II pathway, preventing recognition by CD4+ T cells*. Nat Med, 1999. **5**(9): p. 1039-43.
152. Odeberg, J., et al., *Human cytomegalovirus protein pp65 mediates accumulation of HLA-DR in lysosomes and destruction of the HLA-DR alpha-chain*. Blood, 2003. **101**(12): p. 4870-7.
153. Spencer, J.V., et al., *Potent immunosuppressive activities of cytomegalovirus-encoded interleukin-10*. J Virol, 2002. **76**(3): p. 1285-92.

154. Miller, D.M., et al., *Human cytomegalovirus inhibits major histocompatibility complex class II expression by disruption of the Jak/Stat pathway*. J Exp Med, 1998. **187**(5): p. 675-83.
155. Varani, S., et al., *Human cytomegalovirus differentially controls B cell and T cell responses through effects on plasmacytoid dendritic cells*. J Immunol, 2007. **179**(11): p. 7767-76.
156. Senechal, B., et al., *Infection of mature monocyte-derived dendritic cells with human cytomegalovirus inhibits stimulation of T-cell proliferation via the release of soluble CD83*. Blood, 2004. **103**(11): p. 4207-15.
157. Beck, S. and B.G. Barrell, *Human cytomegalovirus encodes a glycoprotein homologous to MHC class-I antigens*. Nature, 1988. **331**(6153): p. 269-72.
158. Wills, M.R., et al., *Human cytomegalovirus encodes an MHC class I-like molecule (UL142) that functions to inhibit NK cell lysis*. J Immunol, 2005. **175**(11): p. 7457-65.
159. Rolle, A., et al., *Effects of human cytomegalovirus infection on ligands for the activating NKG2D receptor of NK cells: up-regulation of UL16-binding protein (ULBP)1 and ULBP2 is counteracted by the viral UL16 protein*. J Immunol, 2003. **171**(2): p. 902-8.
160. Odeberg, J., et al., *The human cytomegalovirus protein UL16 mediates increased resistance to natural killer cell cytotoxicity through resistance to cytolytic proteins*. J Virol, 2003. **77**(8): p. 4539-45.
161. Lilley, B.N., H.L. Ploegh, and R.S. Tirabassi, *Human cytomegalovirus open reading frame TRL11/IRL11 encodes an immunoglobulin G Fc-binding protein*. J Virol, 2001. **75**(22): p. 11218-21.
162. Atalay, R., et al., *Identification and expression of human cytomegalovirus transcription units coding for two distinct Fcgamma receptor homologs*. J Virol, 2002. **76**(17): p. 8596-608.
163. Spiller, O.B., et al., *Altered expression of host-encoded complement regulators on human cytomegalovirus-infected cells*. Eur J Immunol, 1996. **26**(7): p. 1532-8.
164. Spiller, O.B., et al., *Neutralization of cytomegalovirus virions: the role of complement*. J Infect Dis, 1997. **176**(2): p. 339-47.
165. Gredmark, S. and C. Soderberg-Naucler, *Human cytomegalovirus inhibits differentiation of monocytes into dendritic cells with the consequence of depressed immunological functions*. J Virol, 2003. **77**(20): p. 10943-56.
166. Gredmark, S., T. Tilburgs, and C. Soderberg-Naucler, *Human cytomegalovirus inhibits cytokine-induced macrophage differentiation*. J Virol, 2004. **78**(19): p. 10378-89.

167. Grigoleit, U., et al., *Human cytomegalovirus induces a direct inhibitory effect on antigen presentation by monocyte-derived immature dendritic cells*. Br J Haematol, 2002. **119**(1): p. 189-98.
168. Moutaftsi, M., et al., *Human cytomegalovirus inhibits maturation and impairs function of monocyte-derived dendritic cells*. Blood, 2002. **99**(8): p. 2913-21.
169. Chang, W.L., et al., *Human cytomegalovirus-encoded interleukin-10 homolog inhibits maturation of dendritic cells and alters their functionality*. J Virol, 2004. **78**(16): p. 8720-31.
170. Fleming, P., et al., *The murine cytomegalovirus chemokine homolog, m131/129, is a determinant of viral pathogenicity*. J Virol, 1999. **73**(8): p. 6800-9.
171. Zhu, H., Y. Shen, and T. Shenk, *Human cytomegalovirus IE1 and IE2 proteins block apoptosis*. J Virol, 1995. **69**(12): p. 7960-70.
172. Skaletskaya, A., et al., *A cytomegalovirus-encoded inhibitor of apoptosis that suppresses caspase-8 activation*. Proc Natl Acad Sci U S A, 2001. **98**(14): p. 7829-34.
173. McCormick, A.L., et al., *Disruption of mitochondrial networks by the human cytomegalovirus UL37 gene product viral mitochondrion-localized inhibitor of apoptosis*. J Virol, 2003. **77**(1): p. 631-41.
174. Benedict, C.A., et al., *Cutting edge: a novel viral TNF receptor superfamily member in virulent strains of human cytomegalovirus*. J Immunol, 1999. **162**(12): p. 6967-70.
175. Croce, C.M., *Oncogenes and cancer*. N Engl J Med, 2008. **358**(5): p. 502-11.
176. Young, L.S. and P.G. Murray, *Epstein-Barr virus and oncogenesis: from latent genes to tumours*. Oncogene, 2003. **22**(33): p. 5108-21.
177. Wen, K.W. and B. Damania, *Kaposi sarcoma-associated herpesvirus (KSHV): Molecular biology and oncogenesis*. Cancer Lett, 2009.
178. Lehoux, M., C.M. D'Abramo, and J. Archambault, *Molecular mechanisms of human papillomavirus-induced carcinogenesis*. Public Health Genomics, 2009. **12**(5-6): p. 268-80.
179. Mazzanti, R., L. Gramantieri, and L. Bolondi, *Hepatocellular carcinoma: epidemiology and clinical aspects*. Mol Aspects Med, 2008. **29**(1-2): p. 130-43.
180. zur Hausen, H., *Infections causing human cancer*. 2006: Wiley-VCH Verlag GmbH & Co.
181. Yoshida, M., *Multiple viral strategies of HTLV-1 for dysregulation of cell growth control*. Annu Rev Immunol, 2001. **19**: p. 475-96.

182. Hanahan, D. and R.A. Weinberg, *The hallmarks of cancer*. Cell, 2000. **100**(1): p. 57-70.
183. Alberts, B., Bray, Dennis, Lewis, Julian, Raff, Martin, Roberts, Keith, Watson, James, D., *Molecular Biology of the Cell*. third ed. 1994: Garland Publishing, Inc.
184. Skobe, M. and N.E. Fusenig, *Tumorigenic conversion of immortal human keratinocytes through stromal cell activation*. Proc Natl Acad Sci U S A, 1998. **95**(3): p. 1050-5.
185. Harris, C.C., *p53 tumor suppressor gene: from the basic research laboratory to the clinic--an abridged historical perspective*. Carcinogenesis, 1996. **17**(6): p. 1187-98.
186. Pitti, R.M., et al., *Genomic amplification of a decoy receptor for Fas ligand in lung and colon cancer*. Nature, 1998. **396**(6712): p. 699-703.
187. Bryan, T.M. and T.R. Cech, *Telomerase and the maintenance of chromosome ends*. Curr Opin Cell Biol, 1999. **11**(3): p. 318-24.
188. Bryan, T.M., et al., *Telomere elongation in immortal human cells without detectable telomerase activity*. EMBO J, 1995. **14**(17): p. 4240-8.
189. Hanahan, D. and J. Folkman, *Patterns and emerging mechanisms of the angiogenic switch during tumorigenesis*. Cell, 1996. **86**(3): p. 353-64.
190. Dameron, K.M., et al., *Control of angiogenesis in fibroblasts by p53 regulation of thrombospondin-1*. Science, 1994. **265**(5178): p. 1582-4.
191. Sporn, M.B., *The war on cancer*. Lancet, 1996. **347**(9012): p. 1377-81.
192. Christofori, G. and H. Semb, *The role of the cell-adhesion molecule E-cadherin as a tumour-suppressor gene*. Trends Biochem Sci, 1999. **24**(2): p. 73-6.
193. Kaiser, U., B. Auerbach, and M. Oldenburg, *The neural cell adhesion molecule NCAM in multiple myeloma*. Leuk Lymphoma, 1996. **20**(5-6): p. 389-95.
194. Varner, J.A. and D.A. Cheresh, *Integrins and cancer*. Curr Opin Cell Biol, 1996. **8**(5): p. 724-30.
195. Lukashev, M.E. and Z. Werb, *ECM signalling: orchestrating cell behaviour and misbehaviour*. Trends Cell Biol, 1998. **8**(11): p. 437-41.
196. Singh, S.K., et al., *Identification of human brain tumour initiating cells*. Nature, 2004. **432**(7015): p. 396-401.
197. Yang, Y.M. and J.W. Chang, *Current status and issues in cancer stem cell study*. Cancer Invest, 2008. **26**(7): p. 741-55.

198. Visvader, J.E. and G.J. Lindeman, *Cancer stem cells in solid tumours: accumulating evidence and unresolved questions*. Nat Rev Cancer, 2008. **8**(10): p. 755-68.
199. Rosen, J.M. and C.T. Jordan, *The increasing complexity of the cancer stem cell paradigm*. Science, 2009. **324**(5935): p. 1670-3.
200. Reiman, J.M., et al., *Tumor immunoediting and immunosculpting pathways to cancer progression*. Semin Cancer Biol, 2007. **17**(4): p. 275-87.
201. Seliger, B., *Strategies of tumor immune evasion*. BioDrugs, 2005. **19**(6): p. 347-54.
202. Sanford, E.J., et al., *Evidence for the association of cytomegalovirus with carcinoma of the prostate*. J Urol, 1977. **118**(5): p. 789-92.
203. Geder, L., et al., *Cytomegalovirus and cancer of the prostate: in vitro transformation of human cells*. Cancer Treatment Reports, 1977. **61**(2): p. 139-46.
204. Giraldo, G., E. Beth, and E.S. Huang, *Kaposi's sarcoma and its relationship to cytomegalovirus (CMNV). III. CMV DNA and CMV early antigens in Kaposi's sarcoma*. Int J Cancer, 1980. **26**(1): p. 23-9.
205. Geder, L., et al., *Cytomegalovirus and cancer of the prostate: in vitro transformation of human cells*. Cancer Treat Rep, 1977. **61**(2): p. 139-46.
206. Cobbs, C.S., et al., *Human cytomegalovirus infection and expression in human malignant glioma*. Cancer Res, 2002. **62**(12): p. 3347-50.
207. Ho, K.L., C. Gottlieb, and R.J. Zarbo, *Cytomegalovirus infection of cerebral astrocytoma in an AIDS patient*. Clin Neuropathol, 1991. **10**(3): p. 127-33.
208. Sabatier, J., et al., *Detection of human cytomegalovirus genome and gene products in central nervous system tumours*. Br J Cancer, 2005. **92**(4): p. 747-50.
209. Mitchell, D.A., et al., *Sensitive detection of human cytomegalovirus in tumors and peripheral blood of patients diagnosed with glioblastoma*. Neuro Oncol, 2008. **10**(1): p. 10-8.
210. Scheurer, M.E., et al., *Detection of human cytomegalovirus in different histological types of gliomas*. Acta Neuropathol, 2008. **116**(1): p. 79-86.
211. Harkins, L., et al., *Specific localisation of human cytomegalovirus nucleic acids and proteins in human colorectal cancer*. Lancet, 2002. **360**(9345): p. 1557-63.
212. Samanta, M., et al., *High prevalence of human cytomegalovirus in prostatic intraepithelial neoplasia and prostatic carcinoma*. J Urol, 2003. **170**(3): p. 998-1002.

213. Ballanger, F., et al., *Cytomegalovirus: its potential role in the development of cutaneous T-cell lymphoma*. Exp Dermatol, 2009. **18**(6): p. 574-6.
214. Nigro, G., et al., *Cytomegalovirus-associated stage 4S neuroblastoma relapsed stage 4*. Med Pediatr Oncol, 1995. **24**(3): p. 200-3.
215. Fortunato, E.A., M.L. Dell'Aquila, and D.H. Spector, *Specific chromosome 1 breaks induced by human cytomegalovirus*. Proc Natl Acad Sci U S A, 2000. **97**(2): p. 853-8.
216. Diskin, S.J., et al., *Copy number variation at 1q21.1 associated with neuroblastoma*. Nature, 2009. **459**(7249): p. 987-91.
217. Lau, S.K., et al., *Lack of association of cytomegalovirus with human brain tumors*. Mod Pathol, 2005. **18**(6): p. 838-43.
218. Poltermann, S., et al., *Lack of association of herpesviruses with brain tumors*. J Neurovirol, 2006. **12**(2): p. 90-9.
219. Cinatl, J., Jr., et al., *Modulatory effects of human cytomegalovirus infection on malignant properties of cancer cells*. Intervirology, 1996. **39**(4): p. 259-69.
220. Bentz, G.L. and A.D. Yurochko, *Human CMV infection of endothelial cells induces an angiogenic response through viral binding to EGF receptor and beta1 and beta3 integrins*. Proc Natl Acad Sci U S A, 2008. **105**(14): p. 5531-6.
221. Maussang, D., et al., *The human cytomegalovirus-encoded chemokine receptor US28 promotes angiogenesis and tumor formation via cyclooxygenase-2*. Cancer Res, 2009. **69**(7): p. 2861-9.
222. Tammela, T., et al., *Blocking VEGFR-3 suppresses angiogenic sprouting and vascular network formation*. Nature, 2008. **454**(7204): p. 656-60.
223. Su, J.L., et al., *The role of the VEGF-C/VEGFR-3 axis in cancer progression*. Br J Cancer, 2007. **96**(4): p. 541-5.
224. Zhang, X., et al., *Kaposi's sarcoma-associated herpesvirus activation of vascular endothelial growth factor receptor 3 alters endothelial function and enhances infection*. J Biol Chem, 2005. **280**(28): p. 26216-24.
225. Muganda, P., et al., *Human cytomegalovirus elevates levels of the cellular protein p53 in infected fibroblasts*. J Virol, 1994. **68**(12): p. 8028-34.
226. Speir, E., et al., *Potential role of human cytomegalovirus and p53 interaction in coronary restenosis*. Science, 1994. **265**(5170): p. 391-4.
227. Hsu, C.H., et al., *HCMV IE2-mediated inhibition of HAT activity downregulates p53 function*. EMBO J, 2004. **23**(11): p. 2269-80.

228. Cobbs, C.S., et al., *Modulation of oncogenic phenotype in human glioma cells by cytomegalovirus IE1-mediated mitogenicity*. Cancer Res, 2008. **68**(3): p. 724-30.
229. Straat, K., et al., *Activation of telomerase by human cytomegalovirus*. J Natl Cancer Inst, 2009. **101**(7): p. 488-97.
230. Prichard, M.N., et al., *Human cytomegalovirus UL97 kinase activity is required for the hyperphosphorylation of retinoblastoma protein and inhibits the formation of nuclear aggresomes*. J Virol, 2008. **82**(10): p. 5054-67.
231. Hamirally, S., et al., *Viral mimicry of Cdc2/cyclin-dependent kinase 1 mediates disruption of nuclear lamina during human cytomegalovirus nuclear egress*. PLoS Pathog, 2009. **5**(1): p. e1000275.
232. Vassilev, L.T., et al., *Selective small-molecule inhibitor reveals critical mitotic functions of human CDK1*. Proc Natl Acad Sci U S A, 2006. **103**(28): p. 10660-5.
233. Hume, A.J., et al., *Phosphorylation of retinoblastoma protein by viral protein with cyclin-dependent kinase function*. Science, 2008. **320**(5877): p. 797-9.
234. Andoniou, C.E. and M.A. Degli-Esposti, *Insights into the mechanisms of CMV-mediated interference with cellular apoptosis*. Immunol Cell Biol, 2006. **84**(1): p. 99-106.
235. Terhune, S., et al., *Human cytomegalovirus UL38 protein blocks apoptosis*. J Virol, 2007. **81**(7): p. 3109-23.
236. Kalejta, R.F., J.T. Bechtel, and T. Shenk, *Human cytomegalovirus pp71 stimulates cell cycle progression by inducing the proteasome-dependent degradation of the retinoblastoma family of tumor suppressors*. Mol Cell Biol, 2003. **23**(6): p. 1885-95.
237. Streblow, D.N., et al., *The human cytomegalovirus chemokine receptor US28 mediates vascular smooth muscle cell migration*. Cell, 1999. **99**(5): p. 511-20.
238. Maussang, D., et al., *Human cytomegalovirus-encoded chemokine receptor US28 promotes tumorigenesis*. Proc Natl Acad Sci U S A, 2006. **103**(35): p. 13068-73.
239. Smith, M.S., et al., *Human cytomegalovirus induces monocyte differentiation and migration as a strategy for dissemination and persistence*. J Virol, 2004. **78**(9): p. 4444-53.
240. Hayashi, M.L., C. Blankenship, and T. Shenk, *Human cytomegalovirus UL69 protein is required for efficient accumulation of infected cells in the G1 phase of the cell cycle*. Proc Natl Acad Sci U S A, 2000. **97**(6): p. 2692-6.

241. Gustafsson G, H.M., Vernby Å, *Childhood Cancer Incidence and Survival in Sweden 1984-2005. Report 2007 from the Swedish Childhood Cancer Registry.* . 2007, Swedish Childhood Cancer Registry: Stockholm.
242. Kaatsch, P., et al., *Time trends of cancer incidence in European children (1978-1997): report from the Automated Childhood Cancer Information System project.* Eur J Cancer, 2006. **42**(13): p. 1961-71.
243. Pritchard-Jones, K., et al., *Cancer in children and adolescents in Europe: developments over 20 years and future challenges.* Eur J Cancer, 2006. **42**(13): p. 2183-90.
244. Grimmer, M.R. and W.A. Weiss, *Childhood tumors of the nervous system as disorders of normal development.* Curr Opin Pediatr, 2006. **18**(6): p. 634-8.
245. Johnsen, J.I., et al., *Embryonal neural tumours and cell death.* Apoptosis, 2009. **14**(4): p. 424-38.
246. Scotting, P.J., D.A. Walker, and G. Perilongo, *Childhood solid tumours: a developmental disorder.* Nat Rev Cancer, 2005. **5**(6): p. 481-8.
247. Maris, J.M., et al., *Neuroblastoma.* Lancet, 2007. **369**(9579): p. 2106-20.
248. Träger, C., *Neuroblastoma Incidence, biology and outcome with special emphasis on quantitative analysis of tyrosine hydroxylase mRNA in blood and bone marrow.* 2009, Karolinska Institutet: Stockholm.
249. Schwab, M., et al., *Neuroblastoma: biology and molecular and chromosomal pathology.* Lancet Oncol, 2003. **4**(8): p. 472-80.
250. Pritchard, J. and J.A. Hickman, *Why does stage 4s neuroblastoma regress spontaneously?* Lancet, 1994. **344**(8926): p. 869-70.
251. Woods, W.G., et al., *Screening of infants and mortality due to neuroblastoma.* N Engl J Med, 2002. **346**(14): p. 1041-6.
252. Schilling, F.H., et al., *Neuroblastoma screening at one year of age.* N Engl J Med, 2002. **346**(14): p. 1047-53.
253. Castel, V., et al., *Molecular biology of neuroblastoma.* Clin Transl Oncol, 2007. **9**(8): p. 478-83.
254. Schleiermacher, G., et al., *Chromosomal CGH identifies patients with a higher risk of relapse in neuroblastoma without MYCN amplification.* Br J Cancer, 2007. **97**(2): p. 238-46.
255. Spitz, R., et al., *Oligonucleotide array-based comparative genomic hybridization (aCGH) of 90 neuroblastomas reveals aberration patterns closely associated with relapse pattern and outcome.* Genes Chromosomes Cancer, 2006. **45**(12): p. 1130-42.
256. Brodeur, G.M., *Neuroblastoma: biological insights into a clinical enigma.* Nat Rev Cancer, 2003. **3**(3): p. 203-16.

257. Kushner, B.H. and L. Helson, *Monozygotic siblings discordant for neuroblastoma: etiologic implications*. J Pediatr, 1985. **107**(3): p. 405-9.
258. Nakagawara, A., et al., *Inverse relationship between trk expression and N-myc amplification in human neuroblastomas*. Cancer Res, 1992. **52**(5): p. 1364-8.
259. Wada, R.K., et al., *Human neuroblastoma cell lines that express N-myc without gene amplification*. Cancer, 1993. **72**(11): p. 3346-54.
260. Spitz, R., et al., *FISH analyses for alterations in chromosomes 1, 2, 3, and 11 define high-risk groups in neuroblastoma*. Med Pediatr Oncol, 2003. **41**(1): p. 30-5.
261. Caron, H., et al., *Allelic loss of chromosome 1p as a predictor of unfavorable outcome in patients with neuroblastoma*. N Engl J Med, 1996. **334**(4): p. 225-30.
262. Caron, H., et al., *Chromosome bands 1p35-36 contain two distinct neuroblastoma tumor suppressor loci, one of which is imprinted*. Genes Chromosomes Cancer, 2001. **30**(2): p. 168-74.
263. Martin-Zanca, D., S.H. Hughes, and M. Barbacid, *A human oncogene formed by the fusion of truncated tropomyosin and protein tyrosine kinase sequences*. Nature, 1986. **319**(6056): p. 743-8.
264. Thiele, C.J., Z. Li, and A.E. McKee, *On Trk--The TrkB Signal Transduction Pathway Is an Increasingly Important Target in Cancer Biology*. Clin Cancer Res, 2009.
265. Kogner, P., et al., *Coexpression of messenger RNA for TRK protooncogene and low affinity nerve growth factor receptor in neuroblastoma with favorable prognosis*. Cancer Res, 1993. **53**(9): p. 2044-50.
266. Ryden, M., et al., *Expression of mRNA for the neurotrophin receptor trkC in neuroblastomas with favourable tumour stage and good prognosis*. Br J Cancer, 1996. **74**(5): p. 773-9.
267. Ho, R., et al., *Resistance to chemotherapy mediated by TrkB in neuroblastomas*. Cancer Res, 2002. **62**(22): p. 6462-6.
268. Jaboin, J., et al., *Brain-derived neurotrophic factor activation of TrkB protects neuroblastoma cells from chemotherapy-induced apoptosis via phosphatidylinositol 3'-kinase pathway*. Cancer Res, 2002. **62**(22): p. 6756-63.
269. Matsumoto, K., et al., *Expression of brain-derived neurotrophic factor and p145TrkB affects survival, differentiation, and invasiveness of human neuroblastoma cells*. Cancer Res, 1995. **55**(8): p. 1798-806.
270. Norris, M.D., et al., *Expression of the gene for multidrug-resistance-associated protein and outcome in patients with neuroblastoma*. N Engl J Med, 1996. **334**(4): p. 231-8.

271. Hiyama, E., et al., *Correlating telomerase activity levels with human neuroblastoma outcomes*. Nat Med, 1995. **1**(3): p. 249-55.
272. Nghiemphu, P.L., et al., *Bevacizumab and chemotherapy for recurrent glioblastoma: a single-institution experience*. Neurology, 2009. **72**(14): p. 1217-22.
273. Segerstrom, L., et al., *The anti-VEGF antibody bevacizumab potently reduces the growth rate of high-risk neuroblastoma xenografts*. Pediatr Res, 2006. **60**(5): p. 576-81.
274. Li, R.Y., I. Kosugi, and Y. Tsutsui, *Activation of murine cytomegalovirus immediate-early promoter in mouse brain after transplantation of the neural stem cells*. Acta Neuropathol, 2004. **107**(5): p. 406-12.
275. Gredmark, S., et al., *Human cytomegalovirus induces inhibition of macrophage differentiation by binding to human aminopeptidase N/CD13*. J Immunol, 2004. **173**(8): p. 4897-907.
276. Cinatl, J., Jr., et al., *Long-term productive human cytomegalovirus infection of a human neuroblastoma cell line*. Int J Cancer, 1996. **65**(1): p. 90-6.
277. Cinatl, J., Jr., et al., *Persistent human cytomegalovirus infection induces drug resistance and alteration of programmed cell death in human neuroblastoma cells*. Cancer Res, 1998. **58**(2): p. 367-72.
278. Scholz, M., et al., *Cytomegalovirus-infected neuroblastoma cells exhibit augmented invasiveness mediated by beta1alpha5 integrin (VLA-5)*. Tissue Antigens, 2000. **55**(5): p. 412-21.
279. Hoefer, G., et al., *Impact of persistent cytomegalovirus infection on human neuroblastoma cell gene expression*. Biochem Biophys Res Commun, 2005. **326**(2): p. 395-401.
280. Hjalmar, U., et al., *Increased incidence rates but no space-time clustering of childhood astrocytoma in Sweden, 1973-1992: a population-based study of pediatric brain tumors*. Cancer, 1999. **85**(9): p. 2077-90.
281. Packer, R.J. and G. Vezina, *Management of and prognosis with medulloblastoma: therapy at a crossroads*. Arch Neurol, 2008. **65**(11): p. 1419-24.
282. Gatta, G., et al., *Childhood cancer survival in Europe and the United States*. Cancer, 2002. **95**(8): p. 1767-72.
283. Fan, X. and C.G. Eberhart, *Medulloblastoma stem cells*. J Clin Oncol, 2008. **26**(17): p. 2821-7.
284. Rorke, L.B., *The cerebellar medulloblastoma and its relationship to primitive neuroectodermal tumors*. J Neuropathol Exp Neurol, 1983. **42**(1): p. 1-15.

285. Packer, R.J., et al., *Medulloblastoma: clinical and biologic aspects*. Neuro Oncol, 1999. **1**(3): p. 232-50.
286. Pietsch, T., M.D. Taylor, and J.T. Rutka, *Molecular pathogenesis of childhood brain tumors*. J Neurooncol, 2004. **70**(2): p. 203-15.
287. Pomeroy, S.L., et al., *Prediction of central nervous system embryonal tumour outcome based on gene expression*. Nature, 2002. **415**(6870): p. 436-42.
288. Pietsch, T., et al., *Medulloblastomas of the desmoplastic variant carry mutations of the human homologue of Drosophila patched*. Cancer Res, 1997. **57**(11): p. 2085-8.
289. Packer, R.J., *Childhood medulloblastoma: progress and future challenges*. Brain Dev, 1999. **21**(2): p. 75-81.
290. Wechsler-Reya, R.J. and M.P. Scott, *Control of neuronal precursor proliferation in the cerebellum by Sonic Hedgehog*. Neuron, 1999. **22**(1): p. 103-14.
291. Reifengerger, J., et al., *Missense mutations in SMOH in sporadic basal cell carcinomas of the skin and primitive neuroectodermal tumors of the central nervous system*. Cancer Res, 1998. **58**(9): p. 1798-803.
292. Smyth, I., et al., *Isolation and characterization of human patched 2 (PTCH2), a putative tumour suppressor gene in basal cell carcinoma and medulloblastoma on chromosome 1p32*. Hum Mol Genet, 1999. **8**(2): p. 291-7.
293. Taylor, M.D., et al., *Mutations in SUFU predispose to medulloblastoma*. Nat Genet, 2002. **31**(3): p. 306-10.
294. Oro, A.E., et al., *Basal cell carcinomas in mice overexpressing sonic hedgehog*. Science, 1997. **276**(5313): p. 817-21.
295. Wicking, C., et al., *No evidence for the H133Y mutation in SONIC HEDGEHOG in a collection of common tumour types*. Oncogene, 1998. **16**(8): p. 1091-3.
296. Zurawel, R.H., et al., *Analysis of PTCH/SMO/SHH pathway genes in medulloblastoma*. Genes Chromosomes Cancer, 2000. **27**(1): p. 44-51.
297. Baeza, N., et al., *AXIN1 mutations but not deletions in cerebellar medulloblastomas*. Oncogene, 2003. **22**(4): p. 632-6.
298. Huang, H., et al., *APC mutations in sporadic medulloblastomas*. Am J Pathol, 2000. **156**(2): p. 433-7.
299. Zurawel, R.H., et al., *Sporadic medulloblastomas contain oncogenic beta-catenin mutations*. Cancer Res, 1998. **58**(5): p. 896-9.

300. Gilbertson, R.J., et al., *Expression of the ErbB-neuregulin signaling network during human cerebellar development: implications for the biology of medulloblastoma*. Cancer Res, 1998. **58**(17): p. 3932-41.
301. Gilbertson, R.J., et al., *Prognostic significance of the c-erbB-2 oncogene product in childhood medulloblastoma*. Br J Cancer, 1995. **71**(3): p. 473-7.
302. MacDonald, T.J., et al., *Expression profiling of medulloblastoma: PDGFRA and the RAS/MAPK pathway as therapeutic targets for metastatic disease*. Nat Genet, 2001. **29**(2): p. 143-52.
303. Gilbertson, R.J., et al., *Mutational analysis of PDGFR-RAS/MAPK pathway activation in childhood medulloblastoma*. Eur J Cancer, 2006. **42**(5): p. 646-9.
304. Katoh, M., *WNT signaling pathway and stem cell signaling network*. Clin Cancer Res, 2007. **13**(14): p. 4042-5.
305. Oliver, T.G., et al., *Transcriptional profiling of the Sonic hedgehog response: a critical role for N-myc in proliferation of neuronal precursors*. Proc Natl Acad Sci U S A, 2003. **100**(12): p. 7331-6.
306. Kenney, A.M., M.D. Cole, and D.H. Rowitch, *Nmyc upregulation by sonic hedgehog signaling promotes proliferation in developing cerebellar granule neuron precursors*. Development, 2003. **130**(1): p. 15-28.
307. Bruggers, C.S., et al., *Expression of the c-Myc protein in childhood medulloblastoma*. J Pediatr Hematol Oncol, 1998. **20**(1): p. 18-25.
308. MacGregor, D.N. and E.B. Ziff, *Elevated c-myc expression in childhood medulloblastomas*. Pediatr Res, 1990. **28**(1): p. 63-8.
309. Badiali, M., et al., *N-myc and c-myc oncogenes amplification in medulloblastomas. Evidence of particularly aggressive behavior of a tumor with c-myc amplification*. Tumori, 1991. **77**(2): p. 118-21.
310. Bigner, S.H. and B. Vogelstein, *Cytogenetics and molecular genetics of malignant gliomas and medulloblastoma*. Brain Pathol, 1990. **1**(1): p. 12-8.
311. Wasson, J.C., et al., *Oncogene amplification in pediatric brain tumors*. Cancer Res, 1990. **50**(10): p. 2987-90.
312. Guessous, F., Y. Li, and R. Abounader, *Signaling pathways in medulloblastoma*. J Cell Physiol, 2008. **217**(3): p. 577-83.
313. Altieri, D.C., *New wirings in the survivin networks*. Oncogene, 2008. **27**(48): p. 6276-84.
314. Haberler, C., et al., *Histopathological prognostic factors in medulloblastoma: high expression of survivin is related to unfavourable outcome*. Eur J Cancer, 2006. **42**(17): p. 2996-3003.

315. Fangusaro, J.R., et al., *Survivin, Survivin-2B, and Survivin-deltaEx3 expression in medulloblastoma: biologic markers of tumour morphology and clinical outcome*. Br J Cancer, 2005. **92**(2): p. 359-65.
316. Pizem, J., et al., *Survivin is a negative prognostic marker in medulloblastoma*. Neuropathol Appl Neurobiol, 2005. **31**(4): p. 422-8.
317. Ray, A., et al., *A clinicobiological model predicting survival in medulloblastoma*. Clin Cancer Res, 2004. **10**(22): p. 7613-20.
318. Adesina, A.M., J. Nalbantoglu, and W.K. Cavenee, *p53 gene mutation and mdm2 gene amplification are uncommon in medulloblastoma*. Cancer Res, 1994. **54**(21): p. 5649-51.
319. Taylor, M.D., T.G. Mainprize, and J.T. Rutka, *Molecular insight into medulloblastoma and central nervous system primitive neuroectodermal tumor biology from hereditary syndromes: a review*. Neurosurgery, 2000. **47**(4): p. 888-901.
320. Cogen, P.H. and J.D. McDonald, *Tumor suppressor genes and medulloblastoma*. J Neurooncol, 1996. **29**(1): p. 103-12.
321. Fan, X., et al., *Notch1 and notch2 have opposite effects on embryonal brain tumor growth*. Cancer Res, 2004. **64**(21): p. 7787-93.
322. Biegel, J.A., et al., *Isochromosome 17q in primitive neuroectodermal tumors of the central nervous system*. Genes Chromosomes Cancer, 1989. **1**(2): p. 139-47.
323. Waha, A., et al., *Epigenetic silencing of the HIC-1 gene in human medulloblastomas*. J Neuropathol Exp Neurol, 2003. **62**(11): p. 1192-201.
324. Hamilton, S.R., et al., *The molecular basis of Turcot's syndrome*. N Engl J Med, 1995. **332**(13): p. 839-47.
325. Albrecht, S., et al., *Microsatellite analysis of loss of heterozygosity on chromosomes 9q, 11p and 17p in medulloblastomas*. Neuropathol Appl Neurobiol, 1994. **20**(1): p. 74-81.
326. Schofield, D., et al., *Correlation of loss of heterozygosity at chromosome 9q with histological subtype in medulloblastomas*. Am J Pathol, 1995. **146**(2): p. 472-80.
327. Vorechovsky, I., et al., *Somatic mutations in the human homologue of Drosophila patched in primitive neuroectodermal tumours*. Oncogene, 1997. **15**(3): p. 361-6.
328. Robertson, P.L., et al., *Incidence and severity of postoperative cerebellar mutism syndrome in children with medulloblastoma: a prospective study by the Children's Oncology Group*. J Neurosurg, 2006. **105**(6 Suppl): p. 444-51.

329. Frange, P., et al., *From childhood to adulthood: long-term outcome of medulloblastoma patients. The Institut Curie experience (1980-2000).* J Neurooncol, 2009.
330. Ribi, K., et al., *Outcome of medulloblastoma in children: long-term complications and quality of life.* Neuropediatrics, 2005. **36**(6): p. 357-65.
331. Altieri, A., et al., *Association between number of siblings and nervous system tumors suggests an infectious etiology.* Neurology, 2006. **67**(11): p. 1979-83.
332. Croul, S., J. Otte, and K. Khalili, *Brain tumors and polyomaviruses.* J Neurovirol, 2003. **9**(2): p. 173-82.
333. Okamoto, H., et al., *Detection of JC virus DNA sequences in brain tumors in pediatric patients.* J Neurosurg, 2005. **102**(3 Suppl): p. 294-8.
334. Weggen, S., et al., *Low frequency of SV40, JC and BK polyomavirus sequences in human medulloblastomas, meningiomas and ependymomas.* Brain Pathol, 2000. **10**(1): p. 85-92.
335. Rollison, D.E., et al., *Investigation of human brain tumors for the presence of polyomavirus genome sequences by two independent laboratories.* Int J Cancer, 2005. **113**(5): p. 769-74.
336. Soderberg-Naucleer, C., *HCMV microinfections in inflammatory diseases and cancer.* J Clin Virol, 2008. **41**(3): p. 218-23.
337. Calabrese, C., et al., *A perivascular niche for brain tumor stem cells.* Cancer Cell, 2007. **11**(1): p. 69-82.
338. Stewart, A., J. Webb, and D. Hewitt, *A survey of childhood malignancies.* Br Med J, 1958. **1**(5086): p. 1495-508.
339. Bithell, J.F., G.J. Draper, and P.D. Gorbach, *Association between malignant disease in children and maternal virus infections.* Br Med J, 1973. **1**(5855): p. 706-8.
340. Mercorelli, B., et al., *Human cytomegalovirus DNA replication: antiviral targets and drugs.* Rev Med Virol, 2008. **18**(3): p. 177-210.
341. Biron, K.K., et al., *A human cytomegalovirus mutant resistant to the nucleoside analog 9-([2-hydroxy-1-(hydroxymethyl)ethoxy]methyl)guanine (BW B759U) induces reduced levels of BW B759U triphosphate.* Proc Natl Acad Sci U S A, 1986. **83**(22): p. 8769-73.
342. Kruger, R.M., et al., *The impact of ganciclovir-resistant cytomegalovirus infection after lung transplantation.* Transplantation, 1999. **68**(9): p. 1272-9.
343. Trofe, J., et al., *Maribavir: a novel antiviral agent with activity against cytomegalovirus.* Ann Pharmacother, 2008. **42**(10): p. 1447-57.

344. ViroPharma. *Maribavir*. 2009 [cited 2009 2009-09-25]; Available from: <http://www.viropharma.com>.
345. Wiebusch, L., M. Truss, and C. Hagemeier, *Inhibition of human cytomegalovirus replication by small interfering RNAs*. J Gen Virol, 2004. **85**(Pt 1): p. 179-84.
346. Slater, M.J., et al., *Indolocarbazoles: potent, selective inhibitors of human cytomegalovirus replication*. Bioorg Med Chem, 1999. **7**(6): p. 1067-74.
347. Schleiss, M.R., *Cytomegalovirus vaccines: at last, a major step forward*. Herpes, 2009. **15**(3): p. 44-5.
348. Pass, R.F., *Development and evidence for efficacy of CMV glycoprotein B vaccine with MF59 adjuvant*. J Clin Virol, 2009.
349. Ljungman, P., et al., *Lymphocyte responses after cytomegalovirus infection in bone marrow transplant recipients--a one-year follow-up*. Transplantation, 1985. **40**(5): p. 515-20.
350. Einsele, H., et al., *Infusion of cytomegalovirus (CMV)-specific T cells for the treatment of CMV infection not responding to antiviral chemotherapy*. Blood, 2002. **99**(11): p. 3916-22.
351. Szmania, S., et al., *Isolation and expansion of cytomegalovirus-specific cytotoxic T lymphocytes to clinical scale from a single blood draw using dendritic cells and HLA-tetramers*. Blood, 2001. **98**(3): p. 505-12.
352. Watanabe, N., et al., *Expansion of human CMV-specific cytotoxic T lymphocytes to a clinical scale: a simple culture system using tetrameric HLA-peptide complexes*. Cytotherapy, 2004. **6**(5): p. 514-22.
353. Moss, P.A., M. Cobbold, and C. Craddock, *The cellular immunotherapy of viral infection*. Transfus Med, 2003. **13**(6): p. 405-15.
354. Hooks, J.J., et al., *Human cytomegalovirus induced cyclooxygenase-2 in human retinal pigment epithelial cells augments viral replication through a prostaglandin pathway*. Microbes Infect, 2006. **8**(8): p. 2236-44.
355. Zhu, H., et al., *Inhibition of cyclooxygenase 2 blocks human cytomegalovirus replication*. Proc Natl Acad Sci U S A, 2002. **99**(6): p. 3932-7.
356. Speir, E., et al., *Aspirin attenuates cytomegalovirus infectivity and gene expression mediated by cyclooxygenase-2 in coronary artery smooth muscle cells*. Circ Res, 1998. **83**(2): p. 210-6.
357. Buskens, C.J., et al., *Prognostic significance of elevated cyclooxygenase 2 expression in patients with adenocarcinoma of the esophagus*. Gastroenterology, 2002. **122**(7): p. 1800-7.
358. Denkert, C., K.J. Winzer, and S. Hauptmann, *Prognostic impact of cyclooxygenase-2 in breast cancer*. Clin Breast Cancer, 2004. **4**(6): p. 428-33.

359. Johnsen, J.I., et al., *Cyclooxygenase-2 is expressed in neuroblastoma, and nonsteroidal anti-inflammatory drugs induce apoptosis and inhibit tumor growth in vivo*. *Cancer Res*, 2004. **64**(20): p. 7210-5.
360. Mrena, J., et al., *Cyclooxygenase-2 is an independent prognostic factor in gastric cancer and its expression is regulated by the messenger RNA stability factor HuR*. *Clin Cancer Res*, 2005. **11**(20): p. 7362-8.
361. Soumaoro, L.T., et al., *Cyclooxygenase-2 expression: a significant prognostic indicator for patients with colorectal cancer*. *Clin Cancer Res*, 2004. **10**(24): p. 8465-71.
362. Baryawno, N., et al., *Tumor-growth-promoting cyclooxygenase-2 prostaglandin E2 pathway provides medulloblastoma therapeutic targets*. *Neuro Oncol*, 2008. **10**(5): p. 661-74.
363. Subbaramaiah, K. and A.J. Dannenberg, *Cyclooxygenase 2: a molecular target for cancer prevention and treatment*. *Trends Pharmacol Sci*, 2003. **24**(2): p. 96-102.
364. Lau, L., et al., *Cyclooxygenase inhibitors modulate the p53/HDM2 pathway and enhance chemotherapy-induced apoptosis in neuroblastoma*. *Oncogene*, 2007. **26**(13): p. 1920-31.
365. *Avastin, label and approval history*. 2009 [cited 2009 2009-09-28].
366. Chamberlain, M.C., *MRI in patients with high-grade gliomas treated with bevacizumab and chemotherapy*. *Neurology*, 2006. **67**(11): p. 2089; author reply 2089.
367. Roche, H.-L. http://www.roche.com/media/media_releases. [Press release] 2009 [cited 2009 2009-09-28].
368. Prins, R.M., T.F. Cloughesy, and L.M. Liau, *Cytomegalovirus immunity after vaccination with autologous glioblastoma lysate*. *N Engl J Med*, 2008. **359**(5): p. 539-41.
369. Streblow, D.N., et al., *Rat cytomegalovirus gene expression in cardiac allograft recipients is tissue specific and does not parallel the profiles detected in vitro*. *J Virol*, 2007. **81**(8): p. 3816-26.
370. Nelson, P.N., et al., *Demystified. Human endogenous retroviruses*. *Mol Pathol*, 2003. **56**(1): p. 11-8.