

CHAPTER 5

REFERENCES

1. Pneumocystis pneumonia--Los Angeles. MMWR Morb Mortal Wkly Rep. 1981 Jun 5;30(21):250-2.
2. Kaposi's sarcoma and Pneumocystis pneumonia among homosexual men--New York City and California. MMWR Morb Mortal Wkly Rep. 1981 Jul 3;30(25):305-8.
3. Risk factors for mother-to-child transmission of HIV-1. European Collaborative Study. Lancet. 1992 Apr 25;339(8800):1007-12.
4. Elective caesarean-section versus vaginal delivery in prevention of vertical HIV-1 transmission: a randomised clinical trial. The European Mode of Delivery Collaboration. Lancet. 1999 Mar 27;353(9158):1035-9.
5. The mode of delivery and the risk of vertical transmission of human immunodeficiency virus type 1--a meta-analysis of 15 prospective cohort studies. The International Perinatal HIV Group. N Engl J Med. 1999 Apr 1;340(13):977-87.
6. Duration of ruptured membranes and vertical transmission of HIV-1: a meta-analysis from 15 prospective cohort studies. Aids. 2001 Feb 16;15(3):357-68.
7. ACOG committee opinion scheduled Cesarean delivery and the prevention of vertical transmission of HIV infection. Number 234, May 2000 (replaces number 219, August 1999). Int J Gynaecol Obstet. 2001 Jun;73(3):279-81.
8. Epidemiology of HIV/AIDS--United States, 1981-2005. MMWR Morb Mortal Wkly Rep. 2006 Jun 2;55(21):589-92.
9. Achievements in public health. Reduction in perinatal transmission of HIV infection--United States, 1985-2005. MMWR Morb Mortal Wkly Rep. 2006 Jun 2;55(21):592-7.
10. HIV prevalence among populations of men who have sex with men--Thailand, 2003 and 2005. MMWR Morb Mortal Wkly Rep. 2006 Aug 11;55(31):844-8.
11. Aasa-Chapman MM, Holuigue S, Aubin K, Wong M, Jones NA, Cornforth D, et al. Detection of antibody-dependent complement-mediated inactivation of both autologous and heterologous virus in primary human immunodeficiency virus type 1 infection. J Virol. 2005 Mar;79(5):2823-30.
12. Ahmad A, Menezes J. Antibody-dependent cellular cytotoxicity in HIV infections. Faseb J. 1996 Feb;10(2):258-66.

13. Ahmad N, Baroudy BM, Baker RC, Chappey C. Genetic analysis of human immunodeficiency virus type 1 envelope V3 region isolates from mothers and infants after perinatal transmission. *J Virol.* 1995 Feb;69(2):1001-12.
14. Ahmad R, Sindhu ST, Toma E, Morisset R, Vinclette J, Menezes J, et al. Evidence for a correlation between antibody-dependent cellular cytotoxicity-mediating anti-HIV-1 antibodies and prognostic predictors of HIV infection. *J Clin Immunol.* 2001 May;21(3):227-33.
15. Alaeus A, Lidman K, Bjorkman A, Giesecke J, Albert J. Similar rate of disease progression among individuals infected with HIV-1 genetic subtypes A-D. *Aids.* 1999 May 28;13(8):901-7.
16. Albert J, Abrahamsson B, Nagy K, Aurelius E, Gaines H, Nystrom G, et al. Rapid development of isolate-specific neutralizing antibodies after primary HIV-1 infection and consequent emergence of virus variants which resist neutralization by autologous sera. *Aids.* 1990 Feb;4(2):107-12.
17. Albert J, Stalhandske P, Marquina S, Karis J, Fouchier RA, Norrby E, et al. Biological phenotype of HIV type 2 isolates correlates with V3 genotype. *AIDS Res Hum Retroviruses.* 1996 Jun 10;12(9):821-8.
18. Al-Harthi L, Guilbert LJ, Hoxie JA, Landay A. Trophoblasts are productively infected by CD4-independent isolate of HIV type 1. *AIDS Res Hum Retroviruses.* 2002 Jan 1;18(1):13-7.
19. Ali KZ, Burton GJ, Morad N, Ali ME. Does hypercapillarization influence the branching pattern of terminal villi in the human placenta at high altitude? *Placenta.* 1996 Nov;17(8):677-82.
20. Alkhatib G, Combadiere C, Broder CC, Feng Y, Kennedy PE, Murphy PM, et al. CC CKR5: a RANTES, MIP-1alpha, MIP-1beta receptor as a fusion cofactor for macrophage-tropic HIV-1. *Science.* 1996 Jun 28;272(5270):1955-8.
21. Amornkul PN, Tansuphasawadikul S, Limpakarnjanarat K, Likanonsakul S, Young N, Eampokalap B, et al. Clinical disease associated with HIV-1 subtype B' and E infection among 2104 patients in Thailand. *Aids.* 1999 Oct 1;13(14):1963-9.
22. Anderson VM. The placental barrier to maternal HIV infection. *Obstet Gynecol Clin North Am.* 1997 Dec;24(4):797-820.
23. Armbruster C, Stiegler GM, Vcelar BA, Jager W, Koller U, Jilch R, et al. Passive immunization with the anti-HIV-1 human monoclonal antibody (hMAb) 4E10 and the hMAb combination 4E10/2F5/2G12. *J Antimicrob Chemother.* 2004 Nov;54(5):915-20.
24. Armbruster C, Stiegler GM, Vcelar BA, Jager W, Michael NL, Vetter N, et al. A phase I trial with two human monoclonal antibodies (hMAb 2F5, 2G12) against HIV-1. *Aids.* 2002 Jan 25;16(2):227-33.

25. Avila MM, Pando MA, Carrion G, Peralta LM, Salomon H, Carrillo MG, et al. Two HIV-1 epidemics in Argentina: different genetic subtypes associated with different risk groups. *J Acquir Immune Defic Syndr.* 2002 Apr 1;29(4):422-6.
26. Ayouba A, Souquieres S, Njinku B, Martin PM, Muller-Trutwin MC, Roques P, et al. HIV-1 group N among HIV-1-seropositive individuals in Cameroon. *Aids.* 2000 Nov 10;14(16):2623-5.
27. Baba TW, Liska V, Hofmann-Lehmann R, Vlasak J, Xu W, Ayehunie S, et al. Human neutralizing monoclonal antibodies of the IgG1 subtype protect against mucosal simian-human immunodeficiency virus infection. *Nat Med.* 2000 Feb;6(2):200-6.
28. Baeten JM, Chohan B, Lavreys L, Chohan V, McClelland RS, Certain L, et al. HIV-1 subtype D infection is associated with faster disease progression than subtype A in spite of similar plasma HIV-1 loads. *J Infect Dis.* 2007 Apr 15;195(8):1177-80.
29. Baird HA, Galetto R, Gao Y, Simon-Loriere E, Abreha M, Archer J, et al. Sequence determinants of breakpoint location during HIV-1 intersubtype recombination. *Nucleic Acids Res.* 2006;34(18):5203-16.
30. Barin F, Brunet S, Brand D, Moog C, Peyre R, Damond F, et al. Interclade neutralization and enhancement of human immunodeficiency virus type 1 identified by an assay using HeLa cells expressing both CD4 receptor and CXCR4/CCR5 coreceptors. *J Infect Dis.* 2004 Jan 15;189(2):322-7.
31. Barin F, Cazein F, Lot F, Pillonel J, Brunet S, Thierry D, et al. Prevalence of HIV-2 and HIV-1 group O infections among new HIV diagnoses in France: 2003-2006. *Aids.* 2007 Nov 12;21(17):2351-3.
32. Barin F, Jourdain G, Brunet S, Ngo-Giang-Huong N, Weerawatgoompa S, Karnchanamayul W, et al. Revisiting the role of neutralizing antibodies in mother-to-child transmission of HIV-1. *J Infect Dis.* 2006 Jun 1;193(11):1504-11.
33. Barin F, M'Boup S, Denis F, Kanki P, Allan JS, Lee TH, et al. Serological evidence for virus related to simian T-lymphotropic retrovirus III in residents of west Africa. *Lancet.* 1985 Dec 21-28;2(8469-70):1387-9.
34. Barre-Sinoussi F, Chermann JC, Rey F, Nugeyre MT, Chamaret S, Gruest J, et al. Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS). *Science.* 1983 May 20;220(4599):868-71.
35. Beerenswinkel N, Daumer M, Sing T, Rahnenfuhrer J, Lengauer T, Selbig J, et al. Estimating HIV evolutionary pathways and the genetic barrier to drug resistance. *J Infect Dis.* 2005 Jun 1;191(11):1953-60.
36. Berger EA, Doms RW, Fenyo EM, Korber BT, Littman DR, Moore JP, et al. A new classification for HIV-1. *Nature.* 1998 Jan 15;391(6664):240.

37. Berger EA, Murphy PM, Farber JM. Chemokine receptors as HIV-1 coreceptors: roles in viral entry, tropism, and disease. *Annu Rev Immunol.* 1999;17:657-700.
38. Biggar RJ, Miotti PG, Taha TE, Mtimavalye L, Broadhead R, Justesen A, et al. Perinatal intervention trial in Africa: effect of a birth canal cleansing intervention to prevent HIV transmission. *Lancet.* 1996 Jun 15;347(9016):1647-50.
39. Biggar RJ, Mtimavalye L, Justesen A, Broadhead R, Miley W, Waters D, et al. Does umbilical cord blood polymerase chain reaction positivity indicate in utero (pre-labor) HIV infection? *Aids.* 1997 Sep;11(11):1375-82.
40. Binley JM, Wrin T, Korber B, Zwick MB, Wang M, Chappay C, et al. Comprehensive cross-clade neutralization analysis of a panel of anti-human immunodeficiency virus type 1 monoclonal antibodies. *J Virol.* 2004 Dec;78(23):13232-52.
41. Blackard JT, Cohen DE, Mayer KH. Human immunodeficiency virus superinfection and recombination: current state of knowledge and potential clinical consequences. *Clin Infect Dis.* 2002 Apr 15;34(8):1108-14.
42. Bleul CC, Farzan M, Choe H, Parolin C, Clark-Lewis I, Sodroski J, et al. The lymphocyte chemoattractant SDF-1 is a ligand for LESTR/fusin and blocks HIV-1 entry. *Nature.* 1996 Aug 29;382(6594):829-33.
43. Blish CA, Blay WM, Haigwood NL, Overbaugh J. Transmission of HIV-1 in the face of neutralizing antibodies. *Curr HIV Res.* 2007 Nov;5(6):578-87.
44. Blish CA, Nedellec R, Mandaliya K, Mosier DE, Overbaugh J. HIV-1 subtype A envelope variants from early in infection have variable sensitivity to neutralization and to inhibitors of viral entry. *Aids.* 2007 Mar 30;21(6):693-702.
45. Bloland PB, Wirima JJ, Steketee RW, Chilima B, Hightower A, Breman JG. Maternal HIV infection and infant mortality in Malawi: evidence for increased mortality due to placental malaria infection. *Aids.* 1995 Jul;9(7):721-6.
46. Bomsel M. Transcytosis of infectious human immunodeficiency virus across a tight human epithelial cell line barrier. *Nat Med.* 1997 Jan;3(1):42-7.
47. Bongertz V, Costa CI, Veloso VG, Grinsztejn B, Filho EC, Calvet G, et al. Neutralization titres and vertical HIV-1 transmission. *Scand J Immunol.* 2002 Dec;56(6):642-4.
48. Bongertz V, Costa CI, Veloso VG, Grinsztejn B, Joao Filho EC, Calvet G, et al. Vertical HIV-1 transmission: importance of neutralizing antibody titer and specificity. *Scand J Immunol.* 2001 Mar;53(3):302-9.
49. Borkowsky W, Krasinski K, Cao Y, Ho D, Pollack H, Moore T, et al. Correlation of perinatal transmission of human immunodeficiency virus type 1 with maternal viremia and lymphocyte phenotypes. *J Pediatr.* 1994 Sep;125(3):345-51.

50. Bour S, Strelbel K. The HIV-1 Vpu protein: a multifunctional enhancer of viral particle release. *Microbes Infect.* 2003 Sep;5(11):1029-39.
51. Braibant M, Brunet S, Costagliola D, Rouzioux C, Agut H, Katinger H, et al. Antibodies to conserved epitopes of the HIV-1 envelope in sera from long-term non-progressors: prevalence and association with neutralizing activity. *Aids.* 2006 Oct 3;20(15):1923-30.
52. Brand D, Beby-Defaux A, Mace M, Brunet S, Moreau A, Godet C, et al. First identification of HIV-1 groups M and O dual infections in Europe. *Aids.* 2004 Dec 3;18(18):2425-8.
53. Brenner B, Turner D, Oliveira M, Moisi D, Detorio M, Carobene M, et al. A V106M mutation in HIV-1 clade C viruses exposed to efavirenz confers cross-resistance to non-nucleoside reverse transcriptase inhibitors. *Aids.* 2003 Jan 3;17(1):F1-5.
54. Briggs DR, Tuttle DL, Sleasman JW, Goodenow MM. Envelope V3 amino acid sequence predicts HIV-1 phenotype (co-receptor usage and tropism for macrophages). *Aids.* 2000 Dec 22;14(18):2937-9.
55. Brossard Y, Aubin JT, Mandelbrot L, Bignozzi C, Brand D, Chaput A, et al. Frequency of early in utero HIV-1 infection: a blind DNA polymerase chain reaction study on 100 fetal thymuses. *Aids.* 1995 Apr;9(4):359-66.
56. Bryson YJ, Luzuriaga K, Sullivan JL, Wara DW. Proposed definitions for in utero versus intrapartum transmission of HIV-1. *N Engl J Med.* 1992 Oct 22;327(17):1246-7.
57. Buchbinder SP, Katz MH, Hessol NA, O'Malley PM, Holmberg SD. Long-term HIV-1 infection without immunologic progression. *Aids.* 1994 Aug;8(8):1123-8.
58. Buonaguro L, Tornesello ML, Buonaguro FM. Human immunodeficiency virus type 1 subtype distribution in the worldwide epidemic: pathogenetic and therapeutic implications. *J Virol.* 2007 Oct;81(19):10209-19.
59. Bures R, Morris L, Williamson C, Ramjee G, Deers M, Fiscus SA, et al. Regional clustering of shared neutralization determinants on primary isolates of clade C human immunodeficiency virus type 1 from South Africa. *J Virol.* 2002 Mar;76(5):2233-44.
60. Burger H, Kovacs A, Weiser B, Grimson R, Nachman S, Tropper P, et al. Maternal serum vitamin A levels are not associated with mother-to-child transmission of HIV-1 in the United States. *J Acquir Immune Defic Syndr Hum Retrovirol.* 1997 Apr 1;14(4):321-6.
61. Burns DN, Landesman S, Wright DJ, Waters D, Mitchell RM, Rubinstein A, et al. Influence of other maternal variables on the relationship between maternal virus load and mother-to-infant transmission of human immunodeficiency virus type 1. *J Infect Dis.* 1997 May;175(5):1206-10.

62. Burton DR, Pyati J, Koduri R, Sharp SJ, Thornton GB, Parren PW, et al. Efficient neutralization of primary isolates of HIV-1 by a recombinant human monoclonal antibody. *Science*. 1994 Nov 11;266(5187):1024-7.
63. Burton DR, Stanfield RL, Wilson IA. Antibody vs. HIV in a clash of evolutionary titans. *Proc Natl Acad Sci U S A*. 2005 Oct 18;102(42):14943-8.
64. Burton GJ, O'Shea S, Rostron T, Mullen JE, Aiyer S, Skepper JN, et al. Physical breaks in the placental trophoblastic surface: significance in vertical transmission of HIV. *Aids*. 1996 Sep;10(11):1294-6.
65. Cao Y, Qin L, Zhang L, Safrit J, Ho DD. Virologic and immunologic characterization of long-term survivors of human immunodeficiency virus type 1 infection. *N Engl J Med*. 1995 Jan 26;332(4):201-8.
66. Cardoso RM, Zwick MB, Stanfield RL, Kunert R, Binley JM, Katinger H, et al. Broadly neutralizing anti-HIV antibody 4E10 recognizes a helical conformation of a highly conserved fusion-associated motif in gp41. *Immunity*. 2005 Feb;22(2):163-73.
67. Carotenuto P, Looij D, Keldermans L, de Wolf F, Goudsmit J. Neutralizing antibodies are positively associated with CD4+ T-cell counts and T-cell function in long-term AIDS-free infection. *Aids*. 1998 Sep 10;12(13):1591-600.
68. Carr JK, Salminen MO, Koch C, Gotte D, Artenstein AW, Hegerich PA, et al. Full-length sequence and mosaic structure of a human immunodeficiency virus type 1 isolate from Thailand. *J Virol*. 1996 Sep;70(9):5935-43.
69. Carrillo A, Ratner L. Cooperative effects of the human immunodeficiency virus type 1 envelope variable loops V1 and V3 in mediating infectivity for T cells. *J Virol*. 1996 Feb;70(2):1310-6.
70. Cavacini LA, Samore MH, Gambertoglio J, Jackson B, Duval M, Wisnewski A, et al. Phase I study of a human monoclonal antibody directed against the CD4-binding site of HIV type 1 glycoprotein 120. *AIDS Res Hum Retroviruses*. 1998 May 1;14(7):545-50.
71. Cecilia D, Kleeberger C, Munoz A, Giorgi JV, Zolla-Pazner S. A longitudinal study of neutralizing antibodies and disease progression in HIV-1-infected subjects. *J Infect Dis*. 1999 Jun;179(6):1365-74.
72. Centlivre M, Sommer P, Michel M, Ho Tsong Fang R, Gofflo S, Valladeau J, et al. HIV-1 clade promoters strongly influence spatial and temporal dynamics of viral replication in vivo. *J Clin Invest*. 2005 Feb;115(2):348-58.
73. Charneau P, Borman AM, Quillent C, Guetard D, Chamaret S, Cohen J, et al. Isolation and envelope sequence of a highly divergent HIV-1 isolate: definition of a new HIV-1 group. *Virology*. 1994 Nov 15;205(1):247-53.
74. Charneau P, Mirambeau G, Roux P, Paulous S, Buc H, Clavel F. HIV-1 reverse transcription. A termination step at the center of the genome. *J Mol Biol*. 1994 Sep 2;241(5):651-62.

75. Chen B, Vogan EM, Gong H, Skehel JJ, Wiley DC, Harrison SC. Structure of an unliganded simian immunodeficiency virus gp120 core. *Nature*. 2005 Feb 24;433(7028):834-41.
76. Chen Z, Luckay A, Sodora DL, Telfer P, Reed P, Gettie A, et al. Human immunodeficiency virus type 2 (HIV-2) seroprevalence and characterization of a distinct HIV-2 genetic subtype from the natural range of simian immunodeficiency virus-infected sooty mangabeys. *J Virol*. 1997 May;71(5):3953-60.
77. Chen Z, Telfier P, Gettie A, Reed P, Zhang L, Ho DD, et al. Genetic characterization of new West African simian immunodeficiency virus SIVsm: geographic clustering of household-derived SIV strains with human immunodeficiency virus type 2 subtypes and genetically diverse viruses from a single feral sooty mangabey troop. *J Virol*. 1996 Jun;70(6):3617-27.
78. Chesebro B, Wehrly K, Nishio J, Perryman S. Mapping of independent V3 envelope determinants of human immunodeficiency virus type 1 macrophage tropism and syncytium formation in lymphocytes. *J Virol*. 1996 Dec;70(12):9055-9.
79. Chohan B, Lang D, Sagar M, Korber B, Lavreys L, Richardson B, et al. Selection for human immunodeficiency virus type 1 envelope glycosylation variants with shorter V1-V2 loop sequences occurs during transmission of certain genetic subtypes and may impact viral RNA levels. *J Virol*. 2005 May;79(10):6528-31.
80. Cilliers T, Nhlapo J, Coetzer M, Orlovic D, Ketas T, Olson WC, et al. The CCR5 and CXCR4 coreceptors are both used by human immunodeficiency virus type 1 primary isolates from subtype C. *J Virol*. 2003 Apr;77(7):4449-56.
81. Cilliers T, Patience T, Pillay C, Papathanasopoulos M, Morris L. Sensitivity of HIV type 1 subtype C isolates to the entry inhibitor T-20. *AIDS Res Hum Retroviruses*. 2004 May;20(5):477-82.
82. Clapham PR, McKnight A. Cell surface receptors, virus entry and tropism of primate lentiviruses. *J Gen Virol*. 2002 Aug;83(Pt 8):1809-29.
83. Clavel F, Brun-Vezinet F, Guetard D, Chamaret S, Laurent A, Rouzioux C, et al. [LAV type II: a second retrovirus associated with AIDS in West Africa]. *C R Acad Sci III*. 1986;302(13):485-8.
84. Clemetson DB, Moss GB, Willerford DM, Hensel M, Emonyi W, Holmes KK, et al. Detection of HIV DNA in cervical and vaginal secretions. Prevalence and correlates among women in Nairobi, Kenya. *Jama*. 1993 Jun 9;269(22):2860-4.
85. Clevestig P, Pramanik L, Leitner T, Ehrnst A. CCR5 use by human immunodeficiency virus type 1 is associated closely with the gp120 V3 loop N-linked glycosylation site. *J Gen Virol*. 2006 Mar;87(Pt 3):607-12.

86. Coakley E, Petropoulos CJ, Whitcomb JM. Assessing chemokine co-receptor usage in HIV. *Curr Opin Infect Dis.* 2005 Feb;18(1):9-15.
87. Coffin J, Haase A, Levy JA, Montagnier L, Oroszlan S, Teich N, et al. What to call the AIDS virus? *Nature.* 1986 May 1-7;321(6065):10.
88. Coffin JM. Structure, replication, and recombination of retrovirus genomes: some unifying hypotheses. *J Gen Virol.* 1979 Jan;42(1):1-26.
89. Coffin JM. HIV population dynamics in vivo: implications for genetic variation, pathogenesis, and therapy. *Science.* 1995 Jan 27;267(5197):483-9.
90. Connor EM, Sperling RS, Gelber R, Kiselev P, Scott G, O'Sullivan MJ, et al. Reduction of maternal-infant transmission of human immunodeficiency virus type 1 with zidovudine treatment. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. *N Engl J Med.* 1994 Nov 3;331(18):1173-80.
91. Connor RI, Chen BK, Choe S, Landau NR. Vpr is required for efficient replication of human immunodeficiency virus type-1 in mononuclear phagocytes. *Virology.* 1995 Feb 1;206(2):935-44.
92. Cooley LA, Lewin SR. HIV-1 cell entry and advances in viral entry inhibitor therapy. *J Clin Virol.* 2003 Feb;26(2):121-32.
93. Cooper ER, Charurat M, Mofenson L, Hanson IC, Pitt J, Diaz C, et al. Combination antiretroviral strategies for the treatment of pregnant HIV-1-infected women and prevention of perinatal HIV-1 transmission. *J Acquir Immune Defic Syndr.* 2002 Apr 15;29(5):484-94.
94. Corbet S, Muller-Trutwin MC, Versmisse P, Delarue S, Ayouba A, Lewis J, et al. env sequences of simian immunodeficiency viruses from chimpanzees in Cameroon are strongly related to those of human immunodeficiency virus group N from the same geographic area. *J Virol.* 2000 Jan;74(1):529-34.
95. Courgaud V, Laure F, Brossard A, Bignozzi C, Goudeau A, Barin F, et al. Frequent and early in utero HIV-1 infection. *AIDS Res Hum Retroviruses.* 1991 Mar;7(3):337-41.
96. Cullen BR. HIV-1 auxiliary proteins: making connections in a dying cell. *Cell.* 1998 May 29;93(5):685-92.
97. Cumberland P, Shulman CE, Maple PA, Bulmer JN, Dorman EK, Kauondo K, et al. Maternal HIV infection and placental malaria reduce transplacental antibody transfer and tetanus antibody levels in newborns in Kenya. *J Infect Dis.* 2007 Aug 15;196(4):550-7.
98. Curlin ME, Gottlieb GS, Hawes SE, Sow PS, Ndoye I, Critchlow CW, et al. No evidence for recombination between HIV type 1 and HIV type 2 within the envelope region in dually seropositive individuals from Senegal. *AIDS Res Hum Retroviruses.* 2004 Sep;20(9):958-63.
99. Dacheux L, Moreau A, Ataman-Onal Y, Biron F, Verrier B, Barin F. Evolutionary dynamics of the glycan shield of the human immunodeficiency

- virus envelope during natural infection and implications for exposure of the 2G12 epitope. *J Virol.* 2004 Nov;78(22):12625-37.
- 100.Dalgleish AG, Beverley PC, Clapham PR, Crawford DH, Greaves MF, Weiss RA. The CD4 (T4) antigen is an essential component of the receptor for the AIDS retrovirus. *Nature.* 1984 Dec 20-1985 Jan 2;312(5996):763-7.
 - 101.Diamond F, Worobey M, Campa P, Farfara I, Colin G, Matheron S, et al. Identification of a highly divergent HIV type 2 and proposal for a change in HIV type 2 classification. *AIDS Res Hum Retroviruses.* 2004 Jun;20(6):666-72.
 - 102.David FJ, Autran B, Tran HC, Menu E, Raphael M, Debre P, et al. Human trophoblast cells express CD4 and are permissive for productive infection with HIV-1. *Clin Exp Immunol.* 1992 Apr;88(1):10-6.
 - 103.De Andreis C, Simoni G, Rossella F, Castagna C, Pesenti E, Porta G, et al. HIV-1 proviral DNA polymerase chain reaction detection in chorionic villi after exclusion of maternal contamination by variable number of tandem repeats analysis. *Aids.* 1996 Jun;10(7):711-5.
 - 104.De Jong JJ, De Ronde A, Keulen W, Tersmette M, Goudsmit J. Minimal requirements for the human immunodeficiency virus type 1 V3 domain to support the syncytium-inducing phenotype: analysis by single amino acid substitution. *J Virol.* 1992 Nov;66(11):6777-80.
 - 105.de Jong JJ, Goudsmit J, Keulen W, Klaver B, Krone W, Tersmette M, et al. Human immunodeficiency virus type 1 clones chimeric for the envelope V3 domain differ in syncytium formation and replication capacity. *J Virol.* 1992 Feb;66(2):757-65.
 - 106.Deng H, Liu R, Ellmeier W, Choe S, Unutmaz D, Burkhardt M, et al. Identification of a major co-receptor for primary isolates of HIV-1. *Nature.* 1996 Jun 20;381(6584):661-6.
 - 107.Derdeyn CA, Decker JM, Bibollet-Ruche F, Mokili JL, Muldoon M, Denham SA, et al. Envelope-constrained neutralization-sensitive HIV-1 after heterosexual transmission. *Science.* 2004 Mar 26;303(5666):2019-22.
 - 108.Descamps D, Collin G, Letourneur F, Apetrei C, Diamond F, Loussert-Ajaka I, et al. Susceptibility of human immunodeficiency virus type 1 group O isolates to antiretroviral agents: in vitro phenotypic and genotypic analyses. *J Virol.* 1997 Nov;71(11):8893-8.
 - 109.Dickover R, Garratty E, Yusim K, Miller C, Korber B, Bryson Y. Role of maternal autologous neutralizing antibody in selective perinatal transmission of human immunodeficiency virus type 1 escape variants. *J Virol.* 2006 Jul;80(13):6525-33.
 - 110.Dickover RE, Garratty EM, Herman SA, Sim MS, Plaeger S, Boyer PJ, et al. Identification of levels of maternal HIV-1 RNA associated with risk of perinatal transmission. Effect of maternal zidovudine treatment on viral load. *Jama.* 1996 Feb 28;275(8):599-605.

- 111.Dickover RE, Garratty EM, Plaeger S, Bryson YJ. Perinatal transmission of major, minor, and multiple maternal human immunodeficiency virus type 1 variants in utero and intrapartum. *J Virol.* 2001 Mar;75(5):2194-203.
- 112.Dictor M, Lindgren S, Bont J, Anzen B, Lidman K, Wallin KL, et al. HIV-1 in placentas of untreated HIV-1-infected women in relation to viral transmission, infectious HIV-1 and RNA load in plasma. *Scand J Infect Dis.* 2001;33(1):27-32.
- 113.Dimmock NJ. Neutralization of animal viruses. *Curr Top Microbiol Immunol.* 1993;183:1-149.
- 114.Dirac AM, Huthoff H, Kjems J, Berkhout B. Requirements for RNA heterodimerization of the human immunodeficiency virus type 1 (HIV-1) and HIV-2 genomes. *J Gen Virol.* 2002 Oct;83(Pt 10):2533-42.
- 115.Douglas GC, King BF. Maternal-fetal transmission of human immunodeficiency virus: a review of possible routes and cellular mechanisms of infection. *Clin Infect Dis.* 1992 Oct;15(4):678-91.
- 116.Dragic T, Litwin V, Allaway GP, Martin SR, Huang Y, Nagashima KA, et al. HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5. *Nature.* 1996 Jun 20;381(6584):667-73.
- 117.Duliege AM, Amos CI, Felton S, Biggar RJ, Goedert JJ. Birth order, delivery route, and concordance in the transmission of human immunodeficiency virus type 1 from mothers to twins. International Registry of HIV-Exposed Twins. *J Pediatr.* 1995 Apr;126(4):625-32.
- 118.Dunn DT, Newell ML, Ades AE, Peckham CS. Risk of human immunodeficiency virus type 1 transmission through breastfeeding. *Lancet.* 1992 Sep 5;340(8819):585-8.
- 119.Englund J, Glezen WP, Piedra PA. Maternal immunization against viral disease. *Vaccine.* 1998 Aug-Sep;16(14-15):1456-63.
- 120.Eshleman SH, Mracna M, Guay LA, Deseyve M, Cunningham S, Mirochnick M, et al. Selection and fading of resistance mutations in women and infants receiving nevirapine to prevent HIV-1 vertical transmission (HIVNET 012). *Aids.* 2001 Oct 19;15(15):1951-7.
- 121.Fan J, Negroni M, Robertson DL. The distribution of HIV-1 recombination breakpoints. *Infect Genet Evol.* 2007 Dec;7(6):717-23.
- 122.Fang G, Burger H, Grimson R, Tropper P, Nachman S, Mayers D, et al. Maternal plasma human immunodeficiency virus type 1 RNA level: a determinant and projected threshold for mother-to-child transmission. *Proc Natl Acad Sci U S A.* 1995 Dec 19;92(26):12100-4.
- 123.Feng Y, Broder CC, Kennedy PE, Berger EA. HIV-1 entry cofactor: functional cDNA cloning of a seven-transmembrane, G protein-coupled receptor. *Science.* 1996 May 10;272(5263):872-7.

- 124.Fenyo EM, Morfeldt-Manson L, Chiodi F, Lind B, von Gegerfelt A, Albert J, et al. Distinct replicative and cytopathic characteristics of human immunodeficiency virus isolates. *J Virol.* 1988 Nov;62(11):4414-9.
- 125.Ferrantelli F, Hofmann-Lehmann R, Rasmussen RA, Wang T, Xu W, Li PL, et al. Post-exposure prophylaxis with human monoclonal antibodies prevented SHIV89.6P infection or disease in neonatal macaques. *Aids.* 2003 Feb 14;17(3):301-9.
- 126.Fouchier RA, Brouwer M, Broersen SM, Schuitemaker H. Simple determination of human immunodeficiency virus type 1 syncytium-inducing V3 genotype by PCR. *J Clin Microbiol.* 1995 Apr;33(4):906-11.
- 127.Fouchier RA, Groenink M, Kootstra NA, Tersmette M, Huisman HG, Miedema F, et al. Phenotype-associated sequence variation in the third variable domain of the human immunodeficiency virus type 1 gp120 molecule. *J Virol.* 1992 May;66(5):3183-7.
- 128.Fowler MG, Rogers MF. Overview of perinatal HIV infection. *J Nutr.* 1996 Oct;126(10 Suppl):2602S-7S.
- 129.Fredericksen BL, Wei BL, Yao J, Luo T, Garcia JV. Inhibition of endosomal/lysosomal degradation increases the infectivity of human immunodeficiency virus. *J Virol.* 2002 Nov;76(22):11440-6.
- 130.Freed EO. HIV-1 replication. *Somat Cell Mol Genet.* 2001 Nov;26(1-6):13-33.
- 131.Frost SD, Liu Y, Pond SL, Chappay C, Wrin T, Petropoulos CJ, et al. Characterization of human immunodeficiency virus type 1 (HIV-1) envelope variation and neutralizing antibody responses during transmission of HIV-1 subtype B. *J Virol.* 2005 May;79(10):6523-7.
- 132.Frost SD, Wrin T, Smith DM, Kosakovsky Pond SL, Liu Y, Paxinos E, et al. Neutralizing antibody responses drive the evolution of human immunodeficiency virus type 1 envelope during recent HIV infection. *Proc Natl Acad Sci U S A.* 2005 Dec 20;102(51):18514-9.
- 133.Fuchs R, Ellinger I. Endocytic and transcytotic processes in villous syncytiotrophoblast: role in nutrient transport to the human fetus. *Traffic.* 2004 Oct;5(10):725-38.
- 134.Gaillard P, Mwanyumba F, Verhofstede C, Claeys P, Chohan V, Goetghebeur E, et al. Vaginal lavage with chlorhexidine during labour to reduce mother-to-child HIV transmission: clinical trial in Mombasa, Kenya. *Aids.* 2001 Feb 16;15(3):389-96.
- 135.Galletto R, Moumen A, Giacomoni V, Veron M, Charneau P, Negroni M. The structure of HIV-1 genomic RNA in the gp120 gene determines a recombination hot spot in vivo. *J Biol Chem.* 2004 Aug 27;279(35):36625-32.
- 136.Ganser-Pornillos BK, Yeager M, Sundquist WI. The structural biology of HIV assembly. *Curr Opin Struct Biol.* 2008 Apr;18(2):203-17.

- 137.Gao F, Bailes E, Robertson DL, Chen Y, Rodenburg CM, Michael SF, et al. Origin of HIV-1 in the chimpanzee Pan troglodytes troglodytes. *Nature*. 1999 Feb 4;397(6718):436-41.
- 138.Gao F, Chen Y, Levy DN, Conway JA, Kepler TB, Hui H. Unselected mutations in the human immunodeficiency virus type 1 genome are mostly nonsynonymous and often deleterious. *J Virol*. 2004 Mar;78(5):2426-33.
- 139.Gao F, Robertson DL, Carruthers CD, Li Y, Bailes E, Kostrikis LG, et al. An isolate of human immunodeficiency virus type 1 originally classified as subtype I represents a complex mosaic comprising three different group M subtypes (A, G, and I). *J Virol*. 1998 Dec;72(12):10234-41.
- 140.Gao F, Robertson DL, Morrison SG, Hui H, Craig S, Decker J, et al. The heterosexual human immunodeficiency virus type 1 epidemic in Thailand is caused by an intersubtype (A/E) recombinant of African origin. *J Virol*. 1996 Oct;70(10):7013-29.
- 141.Garcia PM, Kalish LA, Pitt J, Minkoff H, Quinn TC, Burchett SK, et al. Maternal levels of plasma human immunodeficiency virus type 1 RNA and the risk of perinatal transmission. Women and Infants Transmission Study Group. *N Engl J Med*. 1999 Aug 5;341(6):394-402.
- 142.Gardner L, Moffett A. Dendritic cells in the human decidua. *Biol Reprod*. 2003 Oct;69(4):1438-46.
- 143.Garrido C, Roulet V, Chueca N, Poveda E, Aguilera A, Skrabal K, et al. Evaluation of eight different bioinformatics tools to predict viral tropism in different human immunodeficiency virus type 1 subtypes. *J Clin Microbiol*. 2008 Mar;46(3):887-91.
- 144.Geijtenbeek TB, Kwon DS, Torensma R, van Vliet SJ, van Duijnhoven GC, Middel J, et al. DC-SIGN, a dendritic cell-specific HIV-1-binding protein that enhances trans-infection of T cells. *Cell*. 2000 Mar 3;100(5):587-97.
- 145.Geretti AM. HIV-1 subtypes: epidemiology and significance for HIV management. *Curr Opin Infect Dis*. 2006 Feb;19(1):1-7.
- 146.Ghys PD, Fransen K, Diallo MO, Ettiegne-Traore V, Coulibaly IM, Yeboue KM, et al. The associations between cervicovaginal HIV shedding, sexually transmitted diseases and immunosuppression in female sex workers in Abidjan, Cote d'Ivoire. *Aids*. 1997 Oct;11(12):F85-93.
- 147.Goncalves J, Korin Y, Zack J, Gabuzda D. Role of Vif in human immunodeficiency virus type 1 reverse transcription. *J Virol*. 1996 Dec;70(12):8701-9.
- 148.Gorny MK, Moore JP, Conley AJ, Karwowska S, Sodroski J, Williams C, et al. Human anti-V2 monoclonal antibody that neutralizes primary but not laboratory isolates of human immunodeficiency virus type 1. *J Virol*. 1994 Dec;68(12):8312-20.

- 149.Gorny MK, Williams C, Volsky B, Revesz K, Cohen S, Polonis VR, et al. Human monoclonal antibodies specific for conformation-sensitive epitopes of V3 neutralize human immunodeficiency virus type 1 primary isolates from various clades. *J Virol.* 2002 Sep;76(18):9035-45.
- 150.Gouws E, White PJ, Stover J, Brown T. Short term estimates of adult HIV incidence by mode of transmission: Kenya and Thailand as examples. *Sex Transm Infect.* 2006 Jun;82 Suppl 3:iii51-5.
- 151.Gray CM, Williamson C, Bredell H, Pure A, Xia X, Filter R, et al. Viral dynamics and CD4+ T cell counts in subtype C human immunodeficiency virus type 1-infected individuals from southern Africa. *AIDS Res Hum Retroviruses.* 2005 Apr;21(4):285-91.
- 152.Gray ES, Moore PL, Choge IA, Decker JM, Bibollet-Ruche F, Li H, et al. Neutralizing antibody responses in acute human immunodeficiency virus type 1 subtype C infection. *J Virol.* 2007 Jun;81(12):6187-96.
- 153.Greenberg BL, Semba RD, Vink PE, Farley JJ, Sivapalasingam M, Steketee RW, et al. Vitamin A deficiency and maternal-infant transmissions of HIV in two metropolitan areas in the United States. *Aids.* 1997 Mar;11(3):325-32.
- 154.Groenink M, Andeweg AC, Fouchier RA, Broersen S, van der Jagt RC, Schuitemaker H, et al. Phenotype-associated env gene variation among eight related human immunodeficiency virus type 1 clones: evidence for in vivo recombination and determinants of cytotropism outside the V3 domain. *J Virol.* 1992 Oct;66(10):6175-80.
- 155.Groenink M, Fouchier RA, Broersen S, Baker CH, Koot M, van't Wout AB, et al. Relation of phenotype evolution of HIV-1 to envelope V2 configuration. *Science.* 1993 Jun 4;260(5113):1513-6.
- 156.Guevara H, Casseb J, Zijenah LS, Mbizvo M, Oceguera LF, 3rd, Hanson CV, et al. Maternal HIV-1 antibody and vertical transmission in subtype C virus infection. *J Acquir Immune Defic Syndr.* 2002 Apr 15;29(5):435-40.
- 157.Hahn BH, Shaw GM, De Cock KM, Sharp PM. AIDS as a zoonosis: scientific and public health implications. *Science.* 2000 Jan 28;287(5453):607-14.
- 158.Hall T. BioEdit: a user-friendly biological sequence alignment editor and analysis program for Windows 95/98/NT. *Nucl Acids Symp Ser.* 1999;41:95-8.
- 159.Harbison MA, Hammer SM. Inactivation of human immunodeficiency virus by Betadine products and chlorhexidine. *J Acquir Immune Defic Syndr.* 1989;2(1):16-20.
- 160.Haynes BF, Fleming J, St Clair EW, Katinger H, Stiegler G, Kunert R, et al. Cardiolipin polyspecific autoreactivity in two broadly neutralizing HIV-1 antibodies. *Science.* 2005 Jun 24;308(5730):1906-8.

- 161.Hemelaar J, Gouws E, Ghys PD, Osmanov S. Global and regional distribution of HIV-1 genetic subtypes and recombinants in 2004. *Aids.* 2006 Oct 24;20(16):W13-23.
- 162.Hengel RL, Kennedy MS, Steketee RW, Thea DM, Abrams EJ, Lambert G, et al. Neutralizing antibody and perinatal transmission of human immunodeficiency virus type 1. New York City Perinatal HIV Transmission Collaborative Study Group. *AIDS Res Hum Retroviruses.* 1998 Apr 10;14(6):475-81.
- 163.Henin Y, Mandelbrot L, Henrion R, Pradinaud R, Coulaud JP, Montagnier L. Virus excretion in the cervicovaginal secretions of pregnant and nonpregnant HIV-infected women. *J Acquir Immune Defic Syndr.* 1993 Jan;6(1):72-5.
- 164.Ho DD, Neumann AU, Perelson AS, Chen W, Leonard JM, Markowitz M. Rapid turnover of plasma virions and CD4 lymphocytes in HIV-1 infection. *Nature.* 1995 Jan 12;373(6510):123-6.
- 165.Hofmann-Lehmann R, Vlasak J, Rasmussen RA, Jiang S, Li PL, Baba TW, et al. Postnatal pre- and postexposure passive immunization strategies: protection of neonatal macaques against oral simian-human immunodeficiency virus challenge. *J Med Primatol.* 2002 Jun;31(3):109-19.
- 166.Hofmann-Lehmann R, Vlasak J, Rasmussen RA, Smith BA, Baba TW, Liska V, et al. Postnatal passive immunization of neonatal macaques with a triple combination of human monoclonal antibodies against oral simian-human immunodeficiency virus challenge. *J Virol.* 2001 Aug;75(16):7470-80.
- 167.Holguin A, Faudon JL, Labernardiere JL, Soriano V. Susceptibility of HIV-1 non-B subtypes and recombinant variants to Enfuvirtide. *J Clin Virol.* 2007 Feb;38(2):176-80.
- 168.Hu DJ, Vanichseni S, Mastro TD, Raktham S, Young NL, Mock PA, et al. Viral load differences in early infection with two HIV-1 subtypes. *Aids.* 2001 Apr 13;15(6):683-91.
- 169.Hu WS, Temin HM. Genetic consequences of packaging two RNA genomes in one retroviral particle: pseudodiploidy and high rate of genetic recombination. *Proc Natl Acad Sci U S A.* 1990 Feb;87(4):1556-60.
- 170.Huang W, Eshleman SH, Toma J, Fransen S, Stawiski E, Paxinos EE, et al. Coreceptor tropism in human immunodeficiency virus type 1 subtype D: high prevalence of CXCR4 tropism and heterogeneous composition of viral populations. *J Virol.* 2007 Aug;81(15):7885-93.
- 171.Humbert M, Dietrich U. The role of neutralizing antibodies in HIV infection. *AIDS Rev.* 2006 Apr-Jun;8(2):51-9.
- 172.Hwang SS, Boyle TJ, Lyerly HK, Cullen BR. Identification of the envelope V3 loop as the primary determinant of cell tropism in HIV-1. *Science.* 1991 Jul 5;253(5015):71-4.

173. Initiative IAV. AIDS Vaccine Blueprint 2006, Actions to Strengthen Global Research and Development: IAVI; 2006.
174. Jeeninga RE, Hoogenkamp M, Armand-Ugon M, de Baar M, Verhoef K, Berkhout B. Functional differences between the long terminal repeat transcriptional promoters of human immunodeficiency virus type 1 subtypes A through G. *J Virol*. 2000 Apr;74(8):3740-51.
175. Jensen MA, Li FS, van 't Wout AB, Nickle DC, Shriner D, He HX, et al. Improved coreceptor usage prediction and genotypic monitoring of R5-to-X4 transition by motif analysis of human immunodeficiency virus type 1 env V3 loop sequences. *J Virol*. 2003 Dec;77(24):13376-88.
176. Jensen MA, van 't Wout AB. Predicting HIV-1 coreceptor usage with sequence analysis. *AIDS Rev*. 2003 Apr-Jun;5(2):104-12.
177. Jetz AE, Yu H, Klarmann GJ, Ron Y, Preston BD, Dougherty JP. High rate of recombination throughout the human immunodeficiency virus type 1 genome. *J Virol*. 2000 Feb;74(3):1234-40.
178. John GC, Kreiss J. Mother-to-child transmission of human immunodeficiency virus type 1. *Epidemiol Rev*. 1996;18(2):149-57.
179. John GC, Nduati RW, Mbori-Ngacha D, Overbaugh J, Welch M, Richardson BA, et al. Genital shedding of human immunodeficiency virus type 1 DNA during pregnancy: association with immunosuppression, abnormal cervical or vaginal discharge, and severe vitamin A deficiency. *J Infect Dis*. 1997 Jan;175(1):57-62.
180. John-Stewart G, Mbori-Ngacha D, Ekpini R, Janoff EN, Nkengasong J, Read JS, et al. Breast-feeding and Transmission of HIV-1. *J Acquir Immune Defic Syndr*. 2004 Feb 1;35(2):196-202.
181. Johnstone FD. HIV and pregnancy. *Br J Obstet Gynaecol*. 1996 Dec;103(12):1184-90.
182. Joint United Nations Programme on HIV/AIDS. Report on the global AIDS epidemic. Geneva: UNAIDS; 2004. p. v.
183. Joint United Nations Programme on HIV/AIDS., World Health Organization. AIDS epidemic update : special report on HIV prevention : December 2005. Geneva, Switzerland: UNAIDS; 2005.
184. Joint United Nations Programme on HIV/AIDS., World Health Organization. AIDS epidemic update : December 2007. Geneva, Switzerland: UNAIDS; 2007.
185. Jourdain G, Mary JY, Coeur SL, Ngo-Giang-Huong N, Yuthavisuthi P, Limtrakul A, et al. Risk factors for in utero or intrapartum mother-to-child transmission of human immunodeficiency virus type 1 in Thailand. *J Infect Dis*. 2007 Dec 1;196(11):1629-36.
186. Jung A, Maier R, Vartanian JP, Bocharov G, Jung V, Fischer U, et al. Multiply infected spleen cells in HIV patients. *Nature*. 2002 Jul 11;418(6894):144.

- 187.Junghans RP, Boone LR, Skalka AM. Retroviral DNA H structures: displacement-assimilation model of recombination. *Cell.* 1982 Aug;30(1):53-62.
- 188.Junghans RP, Boone LR, Skalka AM. Products of reverse transcription in avian retrovirus analyzed by electron microscopy. *J Virol.* 1982 Aug;43(2):544-54.
- 189.Jurriaans S, Van Gemen B, Weverling GJ, Van Strijp D, Nara P, Coutinho R, et al. The natural history of HIV-1 infection: virus load and virus phenotype independent determinants of clinical course? *Virology.* 1994 Oct;204(1):223-33.
- 190.Kaleebu P, French N, Mahe C, Yirrell D, Watera C, Lyagoba F, et al. Effect of human immunodeficiency virus (HIV) type 1 envelope subtypes A and D on disease progression in a large cohort of HIV-1-positive persons in Uganda. *J Infect Dis.* 2002 May 1;185(9):1244-50.
- 191.Kandathil AJ, Ramalingam S, Kannangai R, David S, Sridharan G. Molecular epidemiology of HIV. *Indian J Med Res.* 2005 Apr;121(4):333-44.
- 192.Kaneda T, Shiraki K, Hirano K, Nagata I. Detection of maternofetal transfusion by placental alkaline phosphatase levels. *J Pediatr.* 1997 May;130(5):730-5.
- 193.Kanki PJ, Hamel DJ, Sankale JL, Hsieh C, Thior I, Barin F, et al. Human immunodeficiency virus type 1 subtypes differ in disease progression. *J Infect Dis.* 1999 Jan;179(1):68-73.
- 194.Kannangai R, Ramalingam S, Prakash KJ, Abraham OC, George R, Castillo RC, et al. Molecular confirmation of human immunodeficiency virus (HIV) type 2 in HIV-seropositive subjects in south India. *Clin Diagn Lab Immunol.* 2000 Nov;7(6):987-9.
- 195.Karlsson Hedestam GB, Fouchier RA, Phogat S, Burton DR, Sodroski J, Wyatt RT. The challenges of eliciting neutralizing antibodies to HIV-1 and to influenza virus. *Nat Rev Microbiol.* 2008 Feb;6(2):143-55.
- 196.Katz RA, Skalka AM. Generation of diversity in retroviruses. *Annu Rev Genet.* 1990;24:409-45.
- 197.Kawichai S, Celentano DD, Vongchak T, Beyrer C, Suriyanon V, Razak MH, et al. HIV voluntary counseling and testing and HIV incidence in male injecting drug users in northern Thailand: evidence of an urgent need for HIV prevention. *J Acquir Immune Defic Syndr.* 2006 Feb 1;41(2):186-93.
- 198.Kimura M. A simple method for estimating evolutionary rates of base substitutions through comparative studies of nucleotide sequences. *J Mol Evol.* 1980 Dec;16(2):111-20.
- 199.Kiszka I, Kmiecik D, Gzyl J, Naito T, Bolesta E, Sieron A, et al. Effect of the V3 loop deletion of envelope glycoprotein on cellular responses and protection against challenge with recombinant vaccinia virus expressing gp160 of

- primary human immunodeficiency virus type 1 isolates. *J Virol.* 2002 May;76(9):4222-32.
200. Kitabwalla M, Ferrantelli F, Wang T, Chalmers A, Katinger H, Stiegler G, et al. Primary African HIV clade A and D isolates: effective cross-clade neutralization with a quadruple combination of human monoclonal antibodies raised against clade B. *AIDS Res Hum Retroviruses.* 2003 Feb;19(2):125-31.
 201. Kiwanuka N, Laeyendecker O, Robb M, Kigozi G, Arroyo M, McCutchan F, et al. Effect of human immunodeficiency virus Type 1 (HIV-1) subtype on disease progression in persons from Rakai, Uganda, with incident HIV-1 infection. *J Infect Dis.* 2008 Mar 1;197(5):707-13.
 202. Klasse PJ, Sattentau QJ. Mechanisms of virus neutralization by antibody. *Curr Top Microbiol Immunol.* 2001;260:87-108.
 203. Klatzmann D, Champagne E, Chamaret S, Gruest J, Guetard D, Hercend T, et al. T-lymphocyte T4 molecule behaves as the receptor for human retrovirus LAV. *Nature.* 1984 Dec 20-1985 Jan 2;312(5996):767-8.
 204. Koblavi-Deme S, Maurice C, Yavo D, Sibailly TS, N'Guessan K, Kamelan-Tano Y, et al. Sensitivity and specificity of human immunodeficiency virus rapid serologic assays and testing algorithms in an antenatal clinic in Abidjan, Ivory Coast. *J Clin Microbiol.* 2001 May;39(5):1808-12.
 205. Koch M, Pancera M, Kwong PD, Kolchinsky P, Grundner C, Wang L, et al. Structure-based, targeted deglycosylation of HIV-1 gp120 and effects on neutralization sensitivity and antibody recognition. *Virology.* 2003 Sep 1;313(2):387-400.
 206. Koch WH, Sullivan PS, Roberts C, Francis K, Downing R, Mastro TD, et al. Evaluation of United States-licensed human immunodeficiency virus immunoassays for detection of group M viral variants. *J Clin Microbiol.* 2001 Mar;39(3):1017-20.
 207. Kolchinsky P, Kiprilov E, Sodroski J. Increased neutralization sensitivity of CD4-independent human immunodeficiency virus variants. *J Virol.* 2001 Mar;75(5):2041-50.
 208. Koulinska IN, Villamor E, Msamanga G, Fawzi W, Blackard J, Renjifo B, et al. Risk of HIV-1 transmission by breastfeeding among mothers infected with recombinant and non-recombinant HIV-1 genotypes. *Virus Res.* 2006 Sep;120(1-2):191-8.
 209. Kourtis AP, Bulterys M, Nesheim SR, Lee FK. Understanding the timing of HIV transmission from mother to infant. *Jama.* 2001 Feb 14;285(6):709-12.
 210. Kourtis AP, Lee FK, Abrams EJ, Jamieson DJ, Bulterys M. Mother-to-child transmission of HIV-1: timing and implications for prevention. *Lancet Infect Dis.* 2006 Nov;6(11):726-32.
 211. Krambovitis E, Spandidos DA. HIV-1 infection: is it time to reconsider our concepts? *Int J Mol Med.* 2006 Jul;18(1):3-8.

- 212.Kuhn L, Steketee RW, Weedon J, Abrams EJ, Lambert G, Bamji M, et al. Distinct risk factors for intrauterine and intrapartum human immunodeficiency virus transmission and consequences for disease progression in infected children. Perinatal AIDS Collaborative Transmission Study. *J Infect Dis.* 1999 Jan;179(1):52-8.
- 213.Kumar A, Kumar S, Dinda AK, Luthra K. Differential expression of CXCR4 receptor in early and term human placenta. *Placenta.* 2004 Apr;25(4):347-51.
- 214.Kumar S, Tamura K, Nei M. MEGA3: Integrated software for Molecular Evolutionary Genetics Analysis and sequence alignment. *Brief Bioinform.* 2004 Jun;5(2):150-63.
- 215.Kwong PD, Doyle ML, Casper DJ, Cicala C, Leavitt SA, Majeed S, et al. HIV-1 evades antibody-mediated neutralization through conformational masking of receptor-binding sites. *Nature.* 2002 Dec 12;420(6916):678-82.
- 216.Kwong PD, Wyatt R, Majeed S, Robinson J, Sweet RW, Sodroski J, et al. Structures of HIV-1 gp120 envelope glycoproteins from laboratory-adapted and primary isolates. *Structure.* 2000 Dec 15;8(12):1329-39.
- 217.Kwong PD, Wyatt R, Robinson J, Sweet RW, Sodroski J, Hendrickson WA. Structure of an HIV gp120 envelope glycoprotein in complex with the CD4 receptor and a neutralizing human antibody. *Nature.* 1998 Jun 18;393(6686):648-59.
- 218.Lagaye S, Derrien M, Menu E, Coito C, Tresoldi E, Mauclere P, et al. Cell-to-cell contact results in a selective translocation of maternal human immunodeficiency virus type 1 quasispecies across a trophoblastic barrier by both transcytosis and infection. *J Virol.* 2001 May;75(10):4780-91.
- 219.Lal RB, Chakrabarti S, Yang C. Impact of genetic diversity of HIV-1 on diagnosis, antiretroviral therapy & vaccine development. *Indian J Med Res.* 2005 Apr;121(4):287-314.
- 220.Lallemand M, Baillou A, Lallemand-Le Coeur S, Nzingoula S, Mampaka M, M'Pele P, et al. Maternal antibody response at delivery and perinatal transmission of human immunodeficiency virus type 1 in African women. *Lancet.* 1994 Apr 23;343(8904):1001-5.
- 221.Lallemand M, Jourdain G, Le Coeur S, Kim S, Koetsawang S, Comeau AM, et al. A trial of shortened zidovudine regimens to prevent mother-to-child transmission of human immunodeficiency virus type 1. Perinatal HIV Prevention Trial (Thailand) Investigators. *N Engl J Med.* 2000 Oct 5;343(14):982-91.
- 222.Lallemand M, Jourdain G, Le Coeur S, Mary JY, Ngo-Giang-Huong N, Koetsawang S, et al. Single-dose perinatal nevirapine plus standard zidovudine to prevent mother-to-child transmission of HIV-1 in Thailand. *N Engl J Med.* 2004 Jul 15;351(3):217-28.
- 223.Lamers SL, Sleasman JW, She JX, Barrie KA, Pomeroy SM, Barrett DJ, et al. Persistence of multiple maternal genotypes of human immunodeficiency virus

- type I in infants infected by vertical transmission. *J Clin Invest.* 1994 Jan;93(1):380-90.
224. Landers DV. Nutrition in pediatric HIV infection: setting the research agenda. Nutrition and immune function II: maternal factors influencing transmission. *J Nutr.* 1996 Oct;126(10 Suppl):2637S-40S.
225. Landesman SH, Kalish LA, Burns DN, Minkoff H, Fox HE, Zorrilla C, et al. Obstetrical factors and the transmission of human immunodeficiency virus type 1 from mother to child. The Women and Infants Transmission Study. *N Engl J Med.* 1996 Jun 20;334(25):1617-23.
226. Langley CL, Benga-De E, Critchlow CW, Ndoye I, Mbengue-Ly MD, Kuypers J, et al. HIV-1, HIV-2, human papillomavirus infection and cervical neoplasia in high-risk African women. *Aids.* 1996 Apr;10(4):413-7.
227. Lathey JL, Tsou J, Brinker K, Hsia K, Meyer WA, 3rd, Spector SA. Lack of autologous neutralizing antibody to human immunodeficiency virus type 1 (HIV-1) and macrophage tropism are associated with mother-to-infant transmission. *J Infect Dis.* 1999 Aug;180(2):344-50.
228. Laurent C, Bourgeois A, Faye MA, Mougnutou R, Seydi M, Gueye M, et al. No difference in clinical progression between patients infected with the predominant human immunodeficiency virus type 1 circulating recombinant form (CRF) 02_AG strain and patients not infected with CRF02_AG, in Western and West-Central Africa: a four-year prospective multicenter study. *J Infect Dis.* 2002 Aug 15;186(4):486-92.
229. Leonard CK, Spellman MW, Riddle L, Harris RJ, Thomas JN, Gregory TJ. Assignment of intrachain disulfide bonds and characterization of potential glycosylation sites of the type 1 recombinant human immunodeficiency virus envelope glycoprotein (gp120) expressed in Chinese hamster ovary cells. *J Biol Chem.* 1990 Jun 25;265(18):10373-82.
230. Leroy V, Newell ML, Dabis F, Peckham C, Van de Perre P, Bulterys M, et al. International multicentre pooled analysis of late postnatal mother-to-child transmission of HIV-1 infection. Ghent International Working Group on Mother-to-Child Transmission of HIV. *Lancet.* 1998 Aug 22;352(9128):597-600.
231. Levy JA, Hoffman AD, Kramer SM, Landis JA, Shimabukuro JM, Oshiro LS. Isolation of lymphocytopathic retroviruses from San Francisco patients with AIDS. *Science.* 1984 Aug 24;225(4664):840-2.
232. Lewis P, Nduati R, Kreiss JK, John GC, Richardson BA, Mbori-Ngacha D, et al. Cell-free human immunodeficiency virus type 1 in breast milk. *J Infect Dis.* 1998 Jan;177(1):34-9.
233. Lewis SH, Reynolds-Kohler C, Fox HE, Nelson JA. HIV-1 in trophoblastic and villous Hofbauer cells, and haematological precursors in eight-week fetuses. *Lancet.* 1990 Mar 10;335(8689):565-8.

- 234.Li A, Baba TW, Sodroski J, Zolla-Pazner S, Gorny MK, Robinson J, et al. Synergistic neutralization of a chimeric SIV/HIV type 1 virus with combinations of human anti-HIV type 1 envelope monoclonal antibodies or hyperimmune globulins. *AIDS Res Hum Retroviruses.* 1997 May 20;13(8):647-56.
- 235.Li A, Katinger H, Posner MR, Cavacini L, Zolla-Pazner S, Gorny MK, et al. Synergistic neutralization of simian-human immunodeficiency virus SHIV-vpu+ by triple and quadruple combinations of human monoclonal antibodies and high-titer anti-human immunodeficiency virus type 1 immunoglobulins. *J Virol.* 1998 Apr;72(4):3235-40.
- 236.Li B, Decker JM, Johnson RW, Bibollet-Ruche F, Wei X, Mulenga J, et al. Evidence for potent autologous neutralizing antibody titers and compact envelopes in early infection with subtype C human immunodeficiency virus type 1. *J Virol.* 2006 Jun;80(11):5211-8.
- 237.Lin HH, Kao JH, Chen DS. Mother-to-child HCV transmission. *Lancet.* 2001 Jan 13;357(9250):142-3.
- 238.Lin HH, Kao JH, Hsu HY, Mizokami M, Hirano K, Chen DS. Least microtransfusion from mother to fetus in elective cesarean delivery. *Obstet Gynecol.* 1996 Feb;87(2):244-8.
- 239.Lin HH, Lee TY, Chen DS, Sung JL, Ohto H, Etoh T, et al. Transplacental leakage of HBeAg-positive maternal blood as the most likely route in causing intrauterine infection with hepatitis B virus. *J Pediatr.* 1987 Dec;111(6 Pt 1):877-81.
- 240.Lole KS, Bollinger RC, Paranjape RS, Gadkari D, Kulkarni SS, Novak NG, et al. Full-length human immunodeficiency virus type 1 genomes from subtype C-infected seroconverters in India, with evidence of intersubtype recombination. *J Virol.* 1999 Jan;73(1):152-60.
- 241.Loussert-Ajaka I, Ly TD, Chaix ML, Ingrand D, Saragosti S, Courouce AM, et al. HIV-1/HIV-2 seronegativity in HIV-1 subtype O infected patients. *Lancet.* 1994 Jun 4;343(8910):1393-4.
- 242.Loussert-Ajaka I, Mandelbrot L, Delmas MC, Bastian H, Benifla JL, Farfara I, et al. HIV-1 detection in cervicovaginal secretions during pregnancy. *Aids.* 1997 Nov;11(13):1575-81.
- 243.Louwagie J, McCutchan FE, Peeters M, Brennan TP, Sanders-Buell E, Eddy GA, et al. Phylogenetic analysis of gag genes from 70 international HIV-1 isolates provides evidence for multiple genotypes. *Aids.* 1993 Jun;7(6):769-80.
- 244.Lyles RH, Munoz A, Yamashita TE, Bazmi H, Detels R, Rinaldo CR, et al. Natural history of human immunodeficiency virus type 1 viremia after seroconversion and proximal to AIDS in a large cohort of homosexual men. Multicenter AIDS Cohort Study. *J Infect Dis.* 2000 Mar;181(3):872-80.

- 245.Maddon PJ, Dalgleish AG, McDougal JS, Clapham PR, Weiss RA, Axel R. The T4 gene encodes the AIDS virus receptor and is expressed in the immune system and the brain. *Cell.* 1986 Nov 7;47(3):333-48.
- 246.Maiques V, Garcia-Tejedor A, Perales A, Navarro C. Intrapartum fetal invasive procedures and perinatal transmission of HIV. *Eur J Obstet Gynecol Reprod Biol.* 1999 Nov;87(1):63-7.
- 247.Malenbaum SE, Yang D, Cavacini L, Posner M, Robinson J, Cheng-Mayer C. The N-terminal V3 loop glycan modulates the interaction of clade A and B human immunodeficiency virus type 1 envelopes with CD4 and chemokine receptors. *J Virol.* 2000 Dec;74(23):11008-16.
- 248.Mandelbrot L, Le Chenadec J, Berrebi A, Bongain A, Benifla JL, Delfraissy JF, et al. Perinatal HIV-1 transmission: interaction between zidovudine prophylaxis and mode of delivery in the French Perinatal Cohort. *Jama.* 1998 Jul 1;280(1):55-60.
- 249.Mandelbrot L, Mayaux MJ, Bongain A, Berrebi A, Moudoub-Jeanpetit Y, Benifla JL, et al. Obstetric factors and mother-to-child transmission of human immunodeficiency virus type 1: the French perinatal cohorts. SEROGEST French Pediatric HIV Infection Study Group. *Am J Obstet Gynecol.* 1996 Sep;175(3 Pt 1):661-7.
- 250.Manó H, Chermann JC. Fetal human immunodeficiency virus type 1 infection of different organs in the second trimester. *AIDS Res Hum Retroviruses.* 1991 Jan;7(1):83-8.
- 251.Mansky LM, Temin HM. Lower in vivo mutation rate of human immunodeficiency virus type 1 than that predicted from the fidelity of purified reverse transcriptase. *J Virol.* 1995 Aug;69(8):5087-94.
- 252.Marcollet A, Goffinet F, Firtion G, Pannier E, Le Bret T, Brival ML, et al. Differences in postpartum morbidity in women who are infected with the human immunodeficiency virus after elective cesarean delivery, emergency cesarean delivery, or vaginal delivery. *Am J Obstet Gynecol.* 2002 Apr;186(4):784-9.
- 253.Masciotra S, Owen SM, Rudolph D, Yang C, Wang B, Saksena N, et al. Temporal relationship between V1V2 variation, macrophage replication, and coreceptor adaptation during HIV-1 disease progression. *Aids.* 2002 Sep 27;16(14):1887-98.
- 254.Mascola JR, Lewis MG, Stiegler G, Harris D, VanCott TC, Hayes D, et al. Protection of Macaques against pathogenic simian/human immunodeficiency virus 89.6PD by passive transfer of neutralizing antibodies. *J Virol.* 1999 May;73(5):4009-18.
- 255.Mascola JR, Louder MK, VanCott TC, Sapan CV, Lambert JS, Muenz LR, et al. Potent and synergistic neutralization of human immunodeficiency virus (HIV) type 1 primary isolates by hyperimmune anti-HIV immunoglobulin

- combined with monoclonal antibodies 2F5 and 2G12. *J Virol.* 1997 Oct;71(10):7198-206.
- 256.Mascola JR, Montefiori DC. HIV-1: nature's master of disguise. *Nat Med.* 2003 Apr;9(4):393-4.
- 257.Mascola JR, Stiegler G, VanCott TC, Katinger H, Carpenter CB, Hanson CE, et al. Protection of macaques against vaginal transmission of a pathogenic HIV-1/SIV chimeric virus by passive infusion of neutralizing antibodies. *Nat Med.* 2000 Feb;6(2):207-10.
- 258.Mayaux MJ, Dussaix E, Isopet J, Rekacewicz C, Mandelbrot L, Ciraru-Vigneron N, et al. Maternal virus load during pregnancy and mother-to-child transmission of human immunodeficiency virus type 1: the French perinatal cohort studies. SEROGEST Cohort Group. *J Infect Dis.* 1997 Jan;175(1):172-5.
- 259.Mc Cann CM, Song RJ, Ruprecht RM. Antibodies: can they protect against HIV infection? *Curr Drug Targets Infect Disord.* 2005 Jun;5(2):95-111.
- 260.McCaffrey RA, Saunders C, Hensel M, Stamatatos L. N-linked glycosylation of the V3 loop and the immunologically silent face of gp120 protects human immunodeficiency virus type 1 SF162 from neutralization by anti-gp120 and anti-gp41 antibodies. *J Virol.* 2004 Apr;78(7):3279-95.
- 261.McCutchan FE. Global epidemiology of HIV. *J Med Virol.* 2006;78 Suppl 1:S7-S12.
- 262.McCutchan FE, Hegerich PA, Brennan TP, Phanuphak P, Singharaj P, Jugsudee A, et al. Genetic variants of HIV-1 in Thailand. *AIDS Res Hum Retroviruses.* 1992 Nov;8(11):1887-95.
- 263.McIntyre J. Strategies to prevent mother-to-child transmission of HIV. *Curr Opin Infect Dis.* 2006 Feb;19(1):33-8.
- 264.Mellors JW, Kingsley LA, Rinaldo CR, Jr., Todd JA, Hoo BS, Kokka RP, et al. Quantitation of HIV-1 RNA in plasma predicts outcome after seroconversion. *Ann Intern Med.* 1995 Apr 15;122(8):573-9.
- 265.Mellors JW, Rinaldo CR, Jr., Gupta P, White RM, Todd JA, Kingsley LA. Prognosis in HIV-1 infection predicted by the quantity of virus in plasma. *Science.* 1996 May 24;272(5265):1167-70.
- 266.Meng G, Wei X, Wu X, Sellers MT, Decker JM, Moldoveanu Z, et al. Primary intestinal epithelial cells selectively transfer R5 HIV-1 to CCR5+ cells. *Nat Med.* 2002 Feb;8(2):150-6.
- 267.Menu E, Mbopi-Keou FX, Lagaye S, Pissard S, Mauclere P, Scarlatti G, et al. Selection of maternal human immunodeficiency virus type 1 variants in human placenta. European Network for In Utero Transmission of HIV-1. *J Infect Dis.* 1999 Jan;179(1):44-51.
- 268.Michael NL, Chang G, Ehrenberg PK, Vahey MT, Redfield RR. HIV-1 proviral genotypes from the peripheral blood mononuclear cells of an infected

- patient are differentially represented in expressed sequences. *J Acquir Immune Defic Syndr.* 1993 Oct;6(10):1073-85.
- 269.Mild M, Esbjornsson J, Fenyo EM, Medstrand P. Frequent intrapatient recombination between human immunodeficiency virus type 1 R5 and X4 envelopes: implications for coreceptor switch. *J Virol.* 2007 Apr;81(7):3369-76.
- 270.Minkoff H, Burns DN, Landesman S, Youchah J, Goedert JJ, Nugent RP, et al. The relationship of the duration of ruptured membranes to vertical transmission of human immunodeficiency virus. *Am J Obstet Gynecol.* 1995 Aug;173(2):585-9.
- 271.Mofenson LM. Interaction between timing of perinatal human immunodeficiency virus infection and the design of preventive and therapeutic interventions. *Acta Paediatr Suppl.* 1997 Jun;421:1-9.
- 272.Mofenson LM, Nugent R. Prophylactic immune globulin in children with HIV disease. *N Engl J Med.* 1995 Mar 16;332(11):750-2.
- 273.Mognetti B, Moussa M, Croitoru J, Menu E, Dormont D, Roques P, et al. HIV-1 co-receptor expression on trophoblastic cells from early placentas and permissivity to infection by several HIV-1 primary isolates. *Clin Exp Immunol.* 2000 Mar;119(3):486-92.
- 274.Montefiori DC, Pantaleo G, Fink LM, Zhou JT, Zhou JY, Biliska M, et al. Neutralizing and infection-enhancing antibody responses to human immunodeficiency virus type 1 in long-term nonprogressors. *J Infect Dis.* 1996 Jan;173(1):60-7.
- 275.Montefiori DC, Reimann KA, Letvin NL, Zhou J, Hu SL. Studies of complement-activating antibodies in the SIV/macaque model of acute primary infection and vaccine protection. *AIDS Res Hum Retroviruses.* 1995 Aug;11(8):963-70.
- 276.Montefiori DC, Robinson WE, Jr., Modliszewski A, Mitchell WM. Effective inactivation of human immunodeficiency virus with chlorhexidine antiseptics containing detergents and alcohol. *J Hosp Infect.* 1990 Apr;15(3):279-82.
- 277.Moodley J, Moodley D, Pillay K, Coovadia H, Saba J, van Leeuwen R, et al. Pharmacokinetics and antiretroviral activity of lamivudine alone or when coadministered with zidovudine in human immunodeficiency virus type 1-infected pregnant women and their offspring. *J Infect Dis.* 1998 Nov;178(5):1327-33.
- 278.Moore JP, Sodroski J. Antibody cross-competition analysis of the human immunodeficiency virus type 1 gp120 exterior envelope glycoprotein. *J Virol.* 1996 Mar;70(3):1863-72.
- 279.Moore PL, Cilliers T, Morris L. Predicted genotypic resistance to the novel entry inhibitor, BMS-378806, among HIV-1 isolates of subtypes A to G. *Aids.* 2004 Nov 19;18(17):2327-30.

- 280.Moore PL, Gray ES, Choge IA, Ranchobe N, Mlisana K, Abdool Karim SS, et al. The c3-v4 region is a major target of autologous neutralizing antibodies in human immunodeficiency virus type 1 subtype C infection. *J Virol.* 2008 Feb;82(4):1860-9.
- 281.Mostad SB, Overbaugh J, DeVange DM, Welch MJ, Chohan B, Mandaliya K, et al. Hormonal contraception, vitamin A deficiency, and other risk factors for shedding of HIV-1 infected cells from the cervix and vagina. *Lancet.* 1997 Sep 27;350(9082):922-7.
- 282.Moulard M, Phogat SK, Shu Y, Labrijn AF, Xiao X, Binley JM, et al. Broadly cross-reactive HIV-1-neutralizing human monoclonal Fab selected for binding to gp120-CD4-CCR5 complexes. *Proc Natl Acad Sci U S A.* 2002 May 14;99(10):6913-8.
- 283.Murphy E, Korber B, Georges-Courbot MC, You B, Pinter A, Cook D, et al. Diversity of V3 region sequences of human immunodeficiency viruses type 1 from the central African Republic. *AIDS Res Hum Retroviruses.* 1993 Oct;9(10):997-1006.
- 284.Musoke P, Guay LA, Bagenda D, Mirochnick M, Nakabiito C, Fleming T, et al. A phase I/II study of the safety and pharmacokinetics of nevirapine in HIV-1-infected pregnant Ugandan women and their neonates (HIVNET 006). *Aids.* 1999 Mar 11;13(4):479-86.
- 285.Muster T, Steindl F, Purtscher M, Trkola A, Klima A, Himmller G, et al. A conserved neutralizing epitope on gp41 of human immunodeficiency virus type 1. *J Virol.* 1993 Nov;67(11):6642-7.
- 286.Nduati RW, John GC, Richardson BA, Overbaugh J, Welch M, Ndinya-Achola J, et al. Human immunodeficiency virus type 1-infected cells in breast milk: association with immunosuppression and vitamin A deficiency. *J Infect Dis.* 1995 Dec;172(6):1461-8.
- 287.Newell ML, Dunn DT, Peckham CS, Semprini AE, Pardi G. Vertical transmission of HIV-1: maternal immune status and obstetric factors. The European Collaborative Study. *Aids.* 1996 Dec;10(14):1675-81.
- 288.Newell ML, Gray G, Bryson YJ. Prevention of mother-to-child transmission of HIV-1 infection. *Aids.* 1997;11 Suppl A:S165-72.
- 289.Nielsen K, Boyer P, Dillon M, Wafer D, Wei LS, Garratty E, et al. Presence of human immunodeficiency virus (HIV) type 1 and HIV-1-specific antibodies in cervicovaginal secretions of infected mothers and in the gastric aspirates of their infants. *J Infect Dis.* 1996 Apr;173(4):1001-4.
- 290.Nkengasong JN, Janssens W, Heyndrickx L, Fransen K, Ndumbe PM, Motte J, et al. Genotypic subtypes of HIV-1 in Cameroon. *Aids.* 1994 Oct;8(10):1405-12.
- 291.Oberlin E, Amara A, Bachelerie F, Bessia C, Virelizier JL, Arenzana-Seisdedos F, et al. The CXC chemokine SDF-1 is the ligand for LESTR/fusin

- and prevents infection by T-cell-line-adapted HIV-1. *Nature*. 1996 Aug 29;382(6594):833-5.
- 292.Ofek G, Tang M, Sambor A, Katinger H, Mascola JR, Wyatt R, et al. Structure and mechanistic analysis of the anti-human immunodeficiency virus type 1 antibody 2F5 in complex with its gp41 epitope. *J Virol*. 2004 Oct;78(19):10724-37.
- 293.Ogert RA, Lee MK, Ross W, Buckler-White A, Martin MA, Cho MW. N-linked glycosylation sites adjacent to and within the V1/V2 and the V3 loops of dualtropic human immunodeficiency virus type 1 isolate DH12 gp120 affect coreceptor usage and cellular tropism. *J Virol*. 2001 Jul;75(13):5998-6006.
- 294.Ou CY, Takebe Y, Luo CC, Kalish M, Auwanit W, Bandea C, et al. Wide distribution of two subtypes of HIV-1 in Thailand. *AIDS Res Hum Retroviruses*. 1992 Aug;8(8):1471-2.
- 295.Panganiban AT, Fiore D. Ordered interstrand and intrastrand DNA transfer during reverse transcription. *Science*. 1988 Aug 26;241(4869):1064-9.
- 296.Pantophlet R, Burton DR. GP120: target for neutralizing HIV-1 antibodies. *Annu Rev Immunol*. 2006;24:739-69.
- 297.Paraskevis D, Magiorkinis M, Vandamme AM, Kostrikis LG, Hatzakis A. Re-analysis of human immunodeficiency virus type 1 isolates from Cyprus and Greece, initially designated 'subtype I', reveals a unique complex A/G/H/K/? mosaic pattern. *J Gen Virol*. 2001 Mar;82(Pt 3):575-80.
- 298.Parker CE, Deterding LJ, Hager-Braun C, Binley JM, Schulke N, Katinger H, et al. Fine definition of the epitope on the gp41 glycoprotein of human immunodeficiency virus type 1 for the neutralizing monoclonal antibody 2F5. *J Virol*. 2001 Nov;75(22):10906-11.
- 299.Parren PW, Marx PA, Hessell AJ, Luckay A, Harouse J, Cheng-Mayer C, et al. Antibody protects macaques against vaginal challenge with a pathogenic R5 simian/human immunodeficiency virus at serum levels giving complete neutralization in vitro. *J Virol*. 2001 Sep;75(17):8340-7.
- 300.Parry JV, Mortimer PP, Perry KR, Pillay D, Zuckerman M. Towards error-free HIV diagnosis: guidelines on laboratory practice. *Commun Dis Public Health*. 2003 Dec;6(4):334-50.
- 301.Pasquier C, Cayrou C, Blancher A, Tourne-Petheil C, Berrebi A, Tricoire J, et al. Molecular evidence for mother-to-child transmission of multiple variants by analysis of RNA and DNA sequences of human immunodeficiency virus type 1. *J Virol*. 1998 Nov;72(11):8493-501.
- 302.Pastore C, Nedellec R, Ramos A, Pontow S, Ratner L, Mosier DE. Human immunodeficiency virus type 1 coreceptor switching: V1/V2 gain-of-fitness mutations compensate for V3 loss-of-fitness mutations. *J Virol*. 2006 Jan;80(2):750-8.

303. Peeters M, Courgnaud V, Abela B, Auzel P, Pourrut X, Bibollet-Ruche F, et al. Risk to human health from a plethora of simian immunodeficiency viruses in primate bushmeat. *Emerg Infect Dis.* 2002 May;8(5):451-7.
304. Peeters M, Honore C, Huet T, Bedjabaga L, Ossari S, Bussi P, et al. Isolation and partial characterization of an HIV-related virus occurring naturally in chimpanzees in Gabon. *Aids.* 1989 Oct;3(10):625-30.
305. Peeters M, Liegeois F, Torimiro N, Bourgeois A, Mpoudi E, Vergne L, et al. Characterization of a highly replicative intergroup M/O human immunodeficiency virus type 1 recombinant isolated from a Cameroonian patient. *J Virol.* 1999 Sep;73(9):7368-75.
306. Peeters M, Lobe V, Nkengasong J, Willems B, Delforge ML, Van Renterghem L, et al. HIV-1 group O infection in Belgium. *Acta Clin Belg.* 1995;50(3):171-3.
307. Perelson AS, Neumann AU, Markowitz M, Leonard JM, Ho DD. HIV-1 dynamics in vivo: virion clearance rate, infected cell life-span, and viral generation time. *Science.* 1996 Mar 15;271(5255):1582-6.
308. Petropoulou H, Stratigos AJ, Katsambas AD. Human immunodeficiency virus infection and pregnancy. *Clin Dermatol.* 2006 Nov-Dec;24(6):536-42.
309. Pfutzner A, Dietrich U, von Eichel U, von Briesen H, Brede HD, Maniar JK, et al. HIV-1 and HIV-2 infections in a high-risk population in Bombay, India: evidence for the spread of HIV-2 and presence of a divergent HIV-1 subtype. *J Acquir Immune Defic Syndr.* 1992 Oct;5(10):972-7.
310. Piatak M, Jr., Saag MS, Yang LC, Clark SJ, Kappes JC, Luk KC, et al. High levels of HIV-1 in plasma during all stages of infection determined by competitive PCR. *Science.* 1993 Mar 19;259(5102):1749-54.
311. Piguet V, Schwartz O, Le Gall S, Trono D. The downregulation of CD4 and MHC-I by primate lentiviruses: a paradigm for the modulation of cell surface receptors. *Immunol Rev.* 1999 Apr;168:51-63.
312. Pilgrim AK, Pantaleo G, Cohen OJ, Fink LM, Zhou JY, Zhou JT, et al. Neutralizing antibody responses to human immunodeficiency virus type 1 in primary infection and long-term-nonprogressive infection. *J Infect Dis.* 1997 Oct;176(4):924-32.
313. Pinter A, Honnen WJ, He Y, Gorny MK, Zolla-Pazner S, Kayman SC. The V1/V2 domain of gp120 is a global regulator of the sensitivity of primary human immunodeficiency virus type 1 isolates to neutralization by antibodies commonly induced upon infection. *J Virol.* 2004 May;78(10):5205-15.
314. Pitt J, Brambilla D, Reichelderfer P, Landay A, McIntosh K, Burns D, et al. Maternal immunologic and virologic risk factors for infant human immunodeficiency virus type 1 infection: findings from the Women and Infants Transmission Study. *J Infect Dis.* 1997 Mar;175(3):567-75.

315. Platt EJ, Wehrly K, Kuhmann SE, Chesebro B, Kabat D. Effects of CCR5 and CD4 cell surface concentrations on infections by macrophagotropic isolates of human immunodeficiency virus type 1. *J Virol.* 1998 Apr;72(4):2855-64.
316. Pohlmann S, Soilleux EJ, Baribaud F, Leslie GJ, Morris LS, Trowsdale J, et al. DC-SIGNR, a DC-SIGN homologue expressed in endothelial cells, binds to human and simian immunodeficiency viruses and activates infection in trans. *Proc Natl Acad Sci U S A.* 2001 Feb 27;98(5):2670-5.
317. Poiesz BJ, Ruscetti FW, Gazdar AF, Bunn PA, Minna JD, Gallo RC. Detection and isolation of type C retrovirus particles from fresh and cultured lymphocytes of a patient with cutaneous T-cell lymphoma. *Proc Natl Acad Sci U S A.* 1980 Dec;77(12):7415-9.
318. Poignard P, Saphire EO, Parren PW, Burton DR. gp120: Biologic aspects of structural features. *Annu Rev Immunol.* 2001;19:253-74.
319. Pollakis G, Kang S, Kliphuis A, Chalaby MI, Goudsmit J, Paxton WA. N-linked glycosylation of the HIV type-1 gp120 envelope glycoprotein as a major determinant of CCR5 and CXCR4 coreceptor utilization. *J Biol Chem.* 2001 Apr 20;276(16):13433-41.
320. Polycarpou A, Ntais C, Korber BT, Elrich HA, Winchester R, Krogstad P, et al. Association between maternal and infant class I and II HLA alleles and of their concordance with the risk of perinatal HIV type 1 transmission. *AIDS Res Hum Retroviruses.* 2002 Jul 20;18(11):741-6.
321. Polzer S, Dittmar MT, Schmitz H, Meyer B, Muller H, Krausslich HG, et al. Loss of N-linked glycans in the V3-loop region of gp120 is correlated to an enhanced infectivity of HIV-1. *Glycobiology.* 2001 Jan;11(1):11-9.
322. Polzer S, Dittmar MT, Schmitz H, Schreiber M. The N-linked glycan g15 within the V3 loop of the HIV-1 external glycoprotein gp120 affects coreceptor usage, cellular tropism, and neutralization. *Virology.* 2002 Dec 5;304(1):70-80.
323. Popovic M, Sarngadharan MG, Read E, Gallo RC. Detection, isolation, and continuous production of cytopathic retroviruses (HTLV-III) from patients with AIDS and pre-AIDS. *Science.* 1984 May 4;224(4648):497-500.
324. Posada D, Crandall KA, Holmes EC. Recombination in evolutionary genomics. *Annu Rev Genet.* 2002;36:75-97.
325. Posner MR, Cavacini LA, Emes CL, Power J, Byrn R. Neutralization of HIV-1 by F105, a human monoclonal antibody to the CD4 binding site of gp120. *J Acquir Immune Defic Syndr.* 1993 Jan;6(1):7-14.
326. Poulsen AG, Kvinesdal B, Aaby P, Molbak K, Frederiksen K, Dias F, et al. Prevalence of and mortality from human immunodeficiency virus type 2 in Bissau, West Africa. *Lancet.* 1989 Apr 15;1(8642):827-31.
327. Poveda E, Barreiro P, Rodes B, Soriano V. Enfuvirtide is active against HIV type 1 group O. *AIDS Res Hum Retroviruses.* 2005 Jun;21(6):583-5.

- 328.Preston BD, Dougherty JP. Mechanisms of retroviral mutation. *Trends Microbiol.* 1996 Jan;4(1):16-21.
- 329.Quinones-Kochs MI, Buonocore L, Rose JK. Role of N-linked glycans in a human immunodeficiency virus envelope glycoprotein: effects on protein function and the neutralizing antibody response. *J Virol.* 2002 May;76(9):4199-211.
- 330.Quinones-Mateu ME, Albright JL, Mas A, Soriano V, Arts EJ. Analysis of pol gene heterogeneity, viral quasispecies, and drug resistance in individuals infected with group O strains of human immunodeficiency virus type 1. *J Virol.* 1998 Nov;72(11):9002-15.
- 331.Raja A, Venturi M, Kwong P, Sodroski J. CD4 binding site antibodies inhibit human immunodeficiency virus gp120 envelope glycoprotein interaction with CCR5. *J Virol.* 2003 Jan;77(1):713-8.
- 332.Rambaut A, Posada D, Crandall KA, Holmes EC. The causes and consequences of HIV evolution. *Nat Rev Genet.* 2004 Jan;5(1):52-61.
- 333.Rayfield MA, Sullivan P, Bandea CI, Britvan L, Otten RA, Pau CP, et al. HIV-1 group O virus identified for the first time in the United States. *Emerg Infect Dis.* 1996 Jul-Sep;2(3):209-12.
- 334.Read JS. Cesarean section delivery to prevent vertical transmission of human immunodeficiency virus type 1. Associated risks and other considerations. *Ann N Y Acad Sci.* 2000 Nov;918:115-21.
- 335.Reeves JD, Doms RW. Human immunodeficiency virus type 2. *J Gen Virol.* 2002 Jun;83(Pt 6):1253-65.
- 336.Reggy A, Simonds RJ, Rogers M. Preventing perinatal HIV transmission. *Aids.* 1997;11 Suppl A:S61-7.
- 337.Reimann KA, Li JT, Veazey R, Halloran M, Park IW, Karlsson GB, et al. A chimeric simian/human immunodeficiency virus expressing a primary patient human immunodeficiency virus type 1 isolate env causes an AIDS-like disease after in vivo passage in rhesus monkeys. *J Virol.* 1996 Oct;70(10):6922-8.
- 338.Renjifo B, Chung M, Gilbert P, Mwakagile D, Msamanga G, Fawzi W, et al. In-utero transmission of quasispecies among human immunodeficiency virus type 1 genotypes. *Virology.* 2003 Mar 15;307(2):278-82.
- 339.Renjifo B, Fawzi W, Mwakagile D, Hunter D, Msamanga G, Spiegelman D, et al. Differences in perinatal transmission among human immunodeficiency virus type 1 genotypes. *J Hum Virol.* 2001 Jan-Feb;4(1):16-25.
- 340.Renjifo B, Gilbert P, Chaplin B, Msamanga G, Mwakagile D, Fawzi W, et al. Preferential in-utero transmission of HIV-1 subtype C as compared to HIV-1 subtype A or D. *Aids.* 2004 Aug 20;18(12):1629-36.
- 341.Resch W, Hoffman N, Swanstrom R. Improved success of phenotype prediction of the human immunodeficiency virus type 1 from envelope

variable loop 3 sequence using neural networks. *Virology*. 2001 Sep 15;288(1):51-62.

- 342.Rhodes DI, Ashton L, Solomon A, Carr A, Cooper D, Kaldor J, et al. Characterization of three nef-defective human immunodeficiency virus type 1 strains associated with long-term nonprogression. Australian Long-Term Nonprogressor Study Group. *J Virol*. 2000 Nov;74(22):10581-8.
- 343.Richman DD, Wrin T, Little SJ, Petropoulos CJ. Rapid evolution of the neutralizing antibody response to HIV type 1 infection. *Proc Natl Acad Sci U S A*. 2003 Apr 1;100(7):4144-9.
- 344.Roben P, Moore JP, Thali M, Sodroski J, Barbas CF, 3rd, Burton DR. Recognition properties of a panel of human recombinant Fab fragments to the CD4 binding site of gp120 that show differing abilities to neutralize human immunodeficiency virus type 1. *J Virol*. 1994 Aug;68(8):4821-8.
- 345.Robertson DL, Anderson JP, Bradac JA, Carr JK, Foley B, Funkhouser RK, et al. HIV-1 nomenclature proposal. *Science*. 2000 Apr 7;288(5463):55-6.
- 346.Rong R, Bibollet-Ruche F, Mulenga J, Allen S, Blackwell JL, Derdeyn CA. Role of V1V2 and other human immunodeficiency virus type 1 envelope domains in resistance to autologous neutralization during clade C infection. *J Virol*. 2007 Feb;81(3):1350-9.
- 347.Rouet F, Ekouevi DK, Inwoley A, Chaix ML, Burgard M, Bequet L, et al. Field evaluation of a rapid human immunodeficiency virus (HIV) serial serologic testing algorithm for diagnosis and differentiation of HIV type 1 (HIV-1), HIV-2, and dual HIV-1-HIV-2 infections in West African pregnant women. *J Clin Microbiol*. 2004 Sep;42(9):4147-53.
- 348.Ruprecht RM, Ferrantelli F, Kitabwalla M, Xu W, McClure HM. Antibody protection: passive immunization of neonates against oral AIDS virus challenge. *Vaccine*. 2003 Jul 28;21(24):3370-3.
- 349.Safrit JT, Ruprecht R, Ferrantelli F, Xu W, Kitabwalla M, Van Rompay K, et al. Immunoprophylaxis to prevent mother-to-child transmission of HIV-1. *J Acquir Immune Defic Syndr*. 2004 Feb 1;35(2):169-77.
- 350.Sagar M, Wu X, Lee S, Overbaugh J. Human immunodeficiency virus type 1 V1-V2 envelope loop sequences expand and add glycosylation sites over the course of infection, and these modifications affect antibody neutralization sensitivity. *J Virol*. 2006 Oct;80(19):9586-98.
- 351.Salemi M, Lamers SL, Yu S, de Oliveira T, Fitch WM, McGrath MS. Phylogenetic analysis of human immunodeficiency virus type 1 in distinct brain compartments provides a model for the neuropathogenesis of AIDS. *J Virol*. 2005 Sep;79(17):11343-52.
- 352.Salvi R, Garbuglia AR, Di Caro A, Pulciani S, Montella F, Benedetto A. Grossly defective nef gene sequences in a human immunodeficiency virus type 1-seropositive long-term nonprogressor. *J Virol*. 1998 May;72(5):3646-57.

- 353.Samleerat T, Braibant M, Jourdain G, Moreau A, Ngo-Giang-Huong N, Leechanachai P, et al. Characteristics of HIV Type 1 (HIV-1) Glycoprotein 120 env Sequences in Mother-Infant Pairs Infected with HIV-1 Subtype CRF01_AE. *J Infect Dis.* 2008 Sep 15;198(6):868-76.
- 354.Saphire EO, Parren PW, Pantophlet R, Zwick MB, Morris GM, Rudd PM, et al. Crystal structure of a neutralizing human IGG against HIV-1: a template for vaccine design. *Science.* 2001 Aug 10;293(5532):1155-9.
- 355.Scanlan CN, Offer J, Zitzmann N, Dwek RA. Exploiting the defensive sugars of HIV-1 for drug and vaccine design. *Nature.* 2007 Apr 26;446(7139):1038-45.
- 356.Scanlan CN, Pantophlet R, Wormald MR, Ollmann Saphire E, Stanfield R, Wilson IA, et al. The broadly neutralizing anti-human immunodeficiency virus type 1 antibody 2G12 recognizes a cluster of alpha1-->2 mannose residues on the outer face of gp120. *J Virol.* 2002 Jul;76(14):7306-21.
- 357.Scarlatti G, Albert J, Rossi P, Hodara V, Biraghi P, Muggiasca L, et al. Mother-to-child transmission of human immunodeficiency virus type 1: correlation with neutralizing antibodies against primary isolates. *J Infect Dis.* 1993 Jul;168(1):207-10.
- 358.Scarlatti G, Leitner T, Halapi E, Wahlberg J, Marchisio P, Clerici-Schoeller MA, et al. Comparison of variable region 3 sequences of human immunodeficiency virus type 1 from infected children with the RNA and DNA sequences of the virus populations of their mothers. *Proc Natl Acad Sci U S A.* 1993 Mar 1;90(5):1721-5.
- 359.Schaeffer E, Gelezunas R, Greene WC. Human immunodeficiency virus type 1 Nef functions at the level of virus entry by enhancing cytoplasmic delivery of virions. *J Virol.* 2001 Mar;75(6):2993-3000.
- 360.Schaeffer E, Soros VB, Greene WC. Compensatory link between fusion and endocytosis of human immunodeficiency virus type 1 in human CD4 T lymphocytes. *J Virol.* 2004 Feb;78(3):1375-83.
- 361.Schafer A. Materno-fetal transmission of human immune deficiency virus. *Infect Dis Obstet Gynecol.* 1997;5(2):115-20.
- 362.Semba RD. Overview of the potential role of vitamin A in mother-to-child transmission of HIV-1. *Acta Paediatr Suppl.* 1997 Jun;421:107-12.
- 363.Semba RD, Kumwenda N, Hoover DR, Taha TE, Quinn TC, Mtimavalye L, et al. Human immunodeficiency virus load in breast milk, mastitis, and mother-to-child transmission of human immunodeficiency virus type 1. *J Infect Dis.* 1999 Jul;180(1):93-8.
- 364.Semba RD, Miotti PG, Chipangwi JD, Saah AJ, Canner JK, Dallabetta GA, et al. Maternal vitamin A deficiency and mother-to-child transmission of HIV-1. *Lancet.* 1994 Jun 25;343(8913):1593-7.

- 365.Semprini AE, Castagna C, Ravizza M, Fiore S, Savasi V, Muggiasca ML, et al. The incidence of complications after caesarean section in 156 HIV-positive women. *Aids.* 1995 Aug;9(8):913-7.
- 366.Shankarappa R, Margolick JB, Gange SJ, Rodrigo AG, Upchurch D, Farzadegan H, et al. Consistent viral evolutionary changes associated with the progression of human immunodeficiency virus type 1 infection. *J Virol.* 1999 Dec;73(12):10489-502.
- 367.Shapiro D, Tuomala R, Samelson R, Burchett S, Ciupak G, McNamara J, Pollack H, Read J. Mother-to-Child HIV Transmission Rates According to Antiretroviral Therapy, Mode of Delivery, and Viral Load (PACTG 367). 9th Conference on Retroviruses and Opportunistic Infections; 2002; 2002.
- 368.Shearer WT, Reuben J, Lee BN, Popek EJ, Lewis DE, Hammill HH, et al. Role of placental cytokines and inflammation in vertical transmission of HIV infection. *Acta Paediatr Suppl.* 1997 Jun;421:33-8.
- 369.Shetty AK, Coovadia HM, Mirochnick MM, Maldonado Y, Mofenson LM, Eshleman SH, et al. Safety and trough concentrations of nevirapine prophylaxis given daily, twice weekly, or weekly in breast-feeding infants from birth to 6 months. *J Acquir Immune Defic Syndr.* 2003 Dec 15;34(5):482-90.
- 370.Shibata J, Yoshimura K, Honda A, Koito A, Murakami T, Matsushita S. Impact of V2 mutations on escape from a potent neutralizing anti-V3 monoclonal antibody during in vitro selection of a primary human immunodeficiency virus type 1 isolate. *J Virol.* 2007 Apr;81(8):3757-68.
- 371.Shioda T, Levy JA, Cheng-Mayer C. Macrophage and T cell-line tropisms of HIV-1 are determined by specific regions of the envelope gp120 gene. *Nature.* 1991 Jan 10;349(6305):167-9.
- 372.Shioda T, Oka S, Ida S, Nokihara K, Toriyoshi H, Mori S, et al. A naturally occurring single basic amino acid substitution in the V3 region of the human immunodeficiency virus type 1 env protein alters the cellular host range and antigenic structure of the virus. *J Virol.* 1994 Dec;68(12):7689-96.
- 373.Simon F, Mauclere P, Roques P, Loussert-Ajaka I, Muller-Trutwin MC, Saragosti S, et al. Identification of a new human immunodeficiency virus type 1 distinct from group M and group O. *Nat Med.* 1998 Sep;4(9):1032-7.
- 374.Sing T, Low AJ, Beerenwinkel N, Sander O, Cheung PK, Domingues FS, et al. Predicting HIV coreceptor usage on the basis of genetic and clinical covariates. *Antivir Ther.* 2007;12(7):1097-106.
- 375.Sitnitskaya Y, Rochford G, Rigaud M, Essajee S, Pollack H, Krasinski K, et al. Prevalence of the T215Y mutation in human immunodeficiency virus type 1-infected pregnant women in a New York cohort, 1995--1999. *Clin Infect Dis.* 2001 Jul 1;33(1):e3-7.
- 376.Soilleux EJ, Coleman N. Transplacental transmission of HIV: a potential role for HIV binding lectins. *Int J Biochem Cell Biol.* 2003 Mar;35(3):283-7.

377. Soilleux EJ, Morris LS, Lee B, Pohlmann S, Trowsdale J, Doms RW, et al. Placental expression of DC-SIGN may mediate intrauterine vertical transmission of HIV. *J Pathol.* 2001 Dec;195(5):586-92.
378. Soriano V, Gomes P, Heneine W, Holguin A, Doruana M, Antunes R, et al. Human immunodeficiency virus type 2 (HIV-2) in Portugal: clinical spectrum, circulating subtypes, virus isolation, and plasma viral load. *J Med Virol.* 2000 May;61(1):111-6.
379. Spear GT, Takefman DM, Sharpe S, Ghassemi M, Zolla-Pazner S. Antibodies to the HIV-1 V3 loop in serum from infected persons contribute a major proportion of immune effector functions including complement activation, antibody binding, and neutralization. *Virology.* 1994 Nov 1;204(2):609-15.
380. Sperling RS, Shapiro DE, Coombs RW, Todd JA, Herman SA, McSherry GD, et al. Maternal viral load, zidovudine treatment, and the risk of transmission of human immunodeficiency virus type 1 from mother to infant. Pediatric AIDS Clinical Trials Group Protocol 076 Study Group. *N Engl J Med.* 1996 Nov 28;335(22):1621-9.
381. Stiegler G, Kunert R, Purtscher M, Wolbank S, Voglauer R, Steindl F, et al. A potent cross-clade neutralizing human monoclonal antibody against a novel epitope on gp41 of human immunodeficiency virus type 1. *AIDS Res Hum Retroviruses.* 2001 Dec 10;17(18):1757-65.
382. Strong RK. This little pIgR went to the mucosa. *Structure.* 2004 Nov;12(11):1919-20.
383. Sullivan N, Sun Y, Sattentau Q, Thali M, Wu D, Denisova G, et al. CD4-Induced conformational changes in the human immunodeficiency virus type 1 gp120 glycoprotein: consequences for virus entry and neutralization. *J Virol.* 1998 Jun;72(6):4694-703.
384. Sutthent R, Foongladda S, Chearskul S, Wanprapa N, Likanonskul S, Kositanon U, et al. V3 sequence diversity of HIV-1 subtype E in infected mothers and their infants. *J Acquir Immune Defic Syndr Hum Retrovirol.* 1998 Aug 1;18(4):323-31.
385. Takeb EY, Kusagawa S, Motomura K. Molecular epidemiology of HIV: tracking AIDS pandemic. *Pediatr Int.* 2004 Apr;46(2):236-44.
386. Takehisa J, Zekeng L, Ido E, Yamaguchi-Kabata Y, Mboudjeka I, Harada Y, et al. Human immunodeficiency virus type 1 intergroup (M/O) recombination in cameroon. *J Virol.* 1999 Aug;73(8):6810-20.
387. Tamura K, Dudley J, Nei M, Kumar S. MEGA4: Molecular Evolutionary Genetics Analysis (MEGA) software version 4.0. *Mol Biol Evol.* 2007 Aug;24(8):1596-9.
388. Taylor BS, Sobieszczyk ME, McCutchan FE, Hammer SM. The challenge of HIV-1 subtype diversity. *N Engl J Med.* 2008 Apr 10;358(15):1590-602.

- 389.Taylor GP, Low-Bear N. Antiretroviral therapy in pregnancy: a focus on safety. *Drug Saf.* 2001;24(9):683-702.
- 390.Temmerman M, Nyong'o AO, Bwayo J, Fransen K, Coppens M, Piot P. Risk factors for mother-to-child transmission of human immunodeficiency virus-1 infection. *Am J Obstet Gynecol.* 1995 Feb;172(2 Pt 1):700-5.
- 391.Tess BH, Rodrigues LC, Newell ML, Dunn DT, Lago TD. Breastfeeding, genetic, obstetric and other risk factors associated with mother-to-child transmission of HIV-1 in Sao Paulo State, Brazil. *Sao Paulo Collaborative Study for Vertical Transmission of HIV-1.* *Aids.* 1998 Mar 26;12(5):513-20.
- 392.Thali M, Moore JP, Furman C, Charles M, Ho DD, Robinson J, et al. Characterization of conserved human immunodeficiency virus type 1 gp120 neutralization epitopes exposed upon gp120-CD4 binding. *J Virol.* 1993 Jul;67(7):3978-88.
- 393.Thea DM, Steketee RW, Pliner V, Bornschlegel K, Brown T, Orloff S, et al. The effect of maternal viral load on the risk of perinatal transmission of HIV-1. *New York City Perinatal HIV Transmission Collaborative Study Group.* *Aids.* 1997 Mar 15;11(4):437-44.
- 394.Thompson JD, Higgins DG, Gibson TJ. CLUSTAL W: improving the sensitivity of progressive multiple sequence alignment through sequence weighting, position-specific gap penalties and weight matrix choice. *Nucleic Acids Res.* 1994 Nov 11;22(22):4673-80.
- 395.Thomson MM, Perez-Alvarez L, Najera R. Molecular epidemiology of HIV-1 genetic forms and its significance for vaccine development and therapy. *Lancet Infect Dis.* 2002 Aug;2(8):461-71.
- 396.Thorne C, Newell ML. Mother-to-child transmission of HIV infection and its prevention. *Curr HIV Res.* 2003 Oct;1(4):447-62.
- 397.Toniolo A, Serra C, Conaldi PG, Basolo F, Falcone V, Dolei A. Productive HIV-1 infection of normal human mammary epithelial cells. *Aids.* 1995 Aug;9(8):859-66.
- 398.Tovanabutra S, de Souza M, Sittisombut N, Sriplienchan S, Ketsararat V, Birx DL, et al. HIV-1 genetic diversity and compartmentalization in mother/infant pairs infected with CRF01_AE. *Aids.* 2007 May 11;21(8):1050-3.
- 399.Trkola A, Kuster H, Rusert P, Joos B, Fischer M, Leemann C, et al. Delay of HIV-1 rebound after cessation of antiretroviral therapy through passive transfer of human neutralizing antibodies. *Nat Med.* 2005 Jun;11(6):615-22.
- 400.Trkola A, Pomales AB, Yuan H, Korber B, Madden PJ, Allaway GP, et al. Cross-clade neutralization of primary isolates of human immunodeficiency virus type 1 by human monoclonal antibodies and tetrameric CD4-IgG. *J Virol.* 1995 Nov;69(11):6609-17.
- 401.Trkola A, Purtscher M, Muster T, Ballaun C, Buchacher A, Sullivan N, et al. Human monoclonal antibody 2G12 defines a distinctive neutralization epitope

- on the gp120 glycoprotein of human immunodeficiency virus type 1. *J Virol.* 1996 Feb;70(2):1100-8.
- 402.Tscherning C, Alaeus A, Fredriksson R, Bjorndal A, Deng H, Littman DR, et al. Differences in chemokine coreceptor usage between genetic subtypes of HIV-1. *Virology.* 1998 Feb 15;241(2):181-8.
- 403.Turner D, Brenner B, Moisi D, Detorio M, Cesaire R, Kurimura T, et al. Nucleotide and amino acid polymorphisms at drug resistance sites in non-B-subtype variants of human immunodeficiency virus type 1. *Antimicrob Agents Chemother.* 2004 Aug;48(8):2993-8.
- 404.Van de Perre P, Hitimana DG, Simonon A, Dabis F, Msellati P, Karita P, et al. Postnatal transmission of HIV-1 associated with breast abscess. *Lancet.* 1992 Jun 13;339(8807):1490-1.
- 405.Van de Perre P, Simonon A, Hitimana DG, Dabis F, Msellati P, Mukamabano B, et al. Infective and anti-infective properties of breastmilk from HIV-1-infected women. *Lancet.* 1993 Apr 10;341(8850):914-8.
- 406.van de Vijver DA, Wensing AM, Angarano G, Asjo B, Balotta C, Boeri E, et al. The calculated genetic barrier for antiretroviral drug resistance substitutions is largely similar for different HIV-1 subtypes. *J Acquir Immune Defic Syndr.* 2006 Mar;41(3):352-60.
- 407.Van Dyke RB, Korber BT, Popek E, Macken C, Widmayer SM, Bardeguez A, et al. The Ariel Project: A prospective cohort study of maternal-child transmission of human immunodeficiency virus type 1 in the era of maternal antiretroviral therapy. *J Infect Dis.* 1999 Feb;179(2):319-28.
- 408.van Harmelen J, Wood R, Lambrick M, Rybicki EP, Williamson AL, Williamson C. An association between HIV-1 subtypes and mode of transmission in Cape Town, South Africa. *Aids.* 1997 Jan;11(1):81-7.
- 409.van Kooyk Y, Engering A, Lekkerkerker AN, Ludwig IS, Geijtenbeek TB. Pathogens use carbohydrates to escape immunity induced by dendritic cells. *Curr Opin Immunol.* 2004 Aug;16(4):488-93.
- 410.Verhofstede C, Demecheleer E, De Cabooter N, Gaillard P, Mwanyumba F, Claeys P, et al. Diversity of the human immunodeficiency virus type 1 (HIV-1) env sequence after vertical transmission in mother-child pairs infected with HIV-1 subtype A. *J Virol.* 2003 Mar;77(5):3050-7.
- 411.Verrier F, Moog C, Barre-Sinoussi F, Van der Ryst E, Spenlehauer C, Girard M. [Macaque immunization with virions purified from a primary isolate of the human immunodeficiency virus type 1 induced enhancement antibodies]. *Bull Acad Natl Med.* 2000;184(1):67-84; discussion 5-7.
- 412.Vidal N, Mulanga C, Bazepeo SE, Lepira F, Delaporte E, Peeters M. Identification and molecular characterization of subsubtype A4 in central Africa. *AIDS Res Hum Retroviruses.* 2006 Feb;22(2):182-7.

413. Vidricaire G, Gauthier S, Tremblay MJ. HIV-1 infection of trophoblasts is independent of gp120/CD4 Interactions but relies on heparan sulfate proteoglycans. *J Infect Dis.* 2007 May 15;195(10):1461-71.
414. Vidricaire G, Imbeault M, Tremblay MJ. Endocytic host cell machinery plays a dominant role in intracellular trafficking of incoming human immunodeficiency virus type 1 in human placental trophoblasts. *J Virol.* 2004 Nov;78(21):11904-15.
415. Vidricaire G, Tardif MR, Tremblay MJ. The low viral production in trophoblastic cells is due to a high endocytic internalization of the human immunodeficiency virus type 1 and can be overcome by the pro-inflammatory cytokines tumor necrosis factor-alpha and interleukin-1. *J Biol Chem.* 2003 May 2;278(18):15832-41.
416. Vogt MW, Witt DJ, Craven DE, Byington R, Crawford DF, Schooley RT, et al. Isolation of HTLV-III/LAV from cervical secretions of women at risk for AIDS. *Lancet.* 1986 Mar 8;1(8480):525-7.
417. Watts DH, Lambert JS, Stiehm ER, Bethel J, Whitehouse J, Fowler MG, et al. Complications according to mode of delivery among human immunodeficiency virus-infected women with CD4 lymphocyte counts of < or = 500/microL. *Am J Obstet Gynecol.* 2000 Jul;183(1):100-7.
418. Weber B, Fall EH, Berger A, Doerr HW. Reduction of diagnostic window by new fourth-generation human immunodeficiency virus screening assays. *J Clin Microbiol.* 1998 Aug;36(8):2235-9.
419. Wei X, Decker JM, Liu H, Zhang Z, Arani RB, Kilby JM, et al. Emergence of resistant human immunodeficiency virus type 1 in patients receiving fusion inhibitor (T-20) monotherapy. *Antimicrob Agents Chemother.* 2002 Jun;46(6):1896-905.
420. Wei X, Decker JM, Wang S, Hui H, Kappes JC, Wu X, et al. Antibody neutralization and escape by HIV-1. *Nature.* 2003 Mar 20;422(6929):307-12.
421. Weisman Z, Kalinkovich A, Borkow G, Stein M, Greenberg Z, Bentwich Z. Infection by different HIV-1 subtypes (B and C) results in a similar immune activation profile despite distinct immune backgrounds. *J Acquir Immune Defic Syndr.* 1999 Jun 1;21(2):157-63.
422. Wilkins A, Ricard D, Todd J, Whittle H, Dias F, Paulo Da Silva A. The epidemiology of HIV infection in a rural area of Guinea-Bissau. *Aids.* 1993 Aug;7(8):1119-22.
423. Willey RL, Maldarelli F, Martin MA, Strelbel K. Human immunodeficiency virus type 1 Vpu protein induces rapid degradation of CD4. *J Virol.* 1992 Dec;66(12):7193-200.
424. Willumsen JF, Filteau SM, Coutsoudis A, Newell ML, Rollins NC, Coovadia HM, et al. Breastmilk RNA viral load in HIV-infected South African women: effects of subclinical mastitis and infant feeding. *Aids.* 2003 Feb 14;17(3):407-14.

425. Wolbank S, Kunert R, Stiegler G, Katinger H. Characterization of human class-switched polymeric (immunoglobulin M [IgM] and IgA) anti-human immunodeficiency virus type 1 antibodies 2F5 and 2G12. *J Virol.* 2003 Apr;77(7):4095-103.
426. Wolfe EJ, Cavacini LA, Samore MH, Posner MR, Kozial C, Spino C, et al. Pharmacokinetics of F105, a human monoclonal antibody, in persons infected with human immunodeficiency virus type 1. *Clin Pharmacol Ther.* 1996 Jun;59(6):662-7.
427. Wolfe ND, Switzer WM, Carr JK, Bhullar VB, Shanmugam V, Tamoufe U, et al. Naturally acquired simian retrovirus infections in central African hunters. *Lancet.* 2004 Mar 20;363(9413):932-7.
428. Wolinsky SM, Wike CM, Korber BT, Hutto C, Parks WP, Rosenblum LL, et al. Selective transmission of human immunodeficiency virus type-1 variants from mothers to infants. *Science.* 1992 Feb 28;255(5048):1134-7.
429. Wolk T, Schreiber M. N-Glycans in the gp120 V1/V2 domain of the HIV-1 strain NL4-3 are indispensable for viral infectivity and resistance against antibody neutralization. *Med Microbiol Immunol.* 2006 Sep;195(3):165-72.
430. Wood L. Perinatal transmission of HIV-1. *Jama.* 1996 Oct 23-30;276(16):1300-1; author reply 1.
431. Wu L, Yang ZY, Xu L, Welcher B, Winfrey S, Shao Y, et al. Cross-clade recognition and neutralization by the V3 region from clade C human immunodeficiency virus-1 envelope. *Vaccine.* 2006 Jun 5;24(23):4995-5002.
432. Wu X, Parast AB, Richardson BA, Nduati R, John-Stewart G, Mbori-Ngacha D, et al. Neutralization escape variants of human immunodeficiency virus type 1 are transmitted from mother to infant. *J Virol.* 2006 Jan;80(2):835-44.
433. Wyatt R, Kwong PD, Desjardins E, Sweet RW, Robinson J, Hendrickson WA, et al. The antigenic structure of the HIV gp120 envelope glycoprotein. *Nature.* 1998 Jun 18;393(6686):705-11.
434. Wyatt R, Sodroski J. The HIV-1 envelope glycoproteins: fusogens, antigens, and immunogens. *Science.* 1998 Jun 19;280(5371):1884-8.
435. Xu S, Huang X, Xu H, Zhang C. Improved prediction of coreceptor usage and phenotype of HIV-1 based on combined features of V3 loop sequence using random forest. *J Microbiol.* 2007 Oct;45(5):441-6.
436. Xu W, Smith-Franklin BA, Li PL, Wood C, He J, Du Q, et al. Potent neutralization of primary human immunodeficiency virus clade C isolates with a synergistic combination of human monoclonal antibodies raised against clade B. *J Hum Virol.* 2001 Mar-Apr;4(2):55-61.
437. Yamaguchi J, Bodelle P, Vallari AS, Coffey R, McArthur CP, Schochetman G, et al. HIV infections in northwestern Cameroon: identification of HIV type 1 group O and dual HIV type 1 group M and group O infections. *AIDS Res Hum Retroviruses.* 2004 Sep;20(9):944-57.

- 438.Ye Y, Si ZH, Moore JP, Sodroski J. Association of structural changes in the V2 and V3 loops of the gp120 envelope glycoprotein with acquisition of neutralization resistance in a simian-human immunodeficiency virus passaged in vivo. *J Virol.* 2000 Dec;74(24):11955-62.
- 439.Zachar V, Spire B, Hirsch I, Chermann JC, Ebbesen P. Human transformed trophoblast-derived cells lacking CD4 receptor exhibit restricted permissiveness for human immunodeficiency virus type 1. *J Virol.* 1991 Apr;65(4):2102-7.
- 440.Zachar V, Zacharova V, Fink T, Thomas RA, King BR, Ebbesen P, et al. Genetic analysis reveals ongoing HIV type 1 evolution in infected human placental trophoblast. *AIDS Res Hum Retroviruses.* 1999 Dec 10;15(18):1673-83.
- 441.Zhang M, Gaschen B, Blay W, Foley B, Haigwood N, Kuiken C, et al. Tracking global patterns of N-linked glycosylation site variation in highly variable viral glycoproteins: HIV, SIV, and HCV envelopes and influenza hemagglutinin. *Glycobiology.* 2004 Dec;14(12):1229-46.
- 442.Zhou T, Xu L, Dey B, Hessell AJ, Van Ryk D, Xiang SH, et al. Structural definition of a conserved neutralization epitope on HIV-1 gp120. *Nature.* 2007 Feb 15;445(7129):732-7.
- 443.Zolla-Pazner S. Identifying epitopes of HIV-1 that induce protective antibodies. *Nat Rev Immunol.* 2004 Mar;4(3):199-210.
- 444.Zolla-Pazner S, Cohen SS, Krachmarov C, Wang S, Pinter A, Lu S. Focusing the immune response on the V3 loop, a neutralizing epitope of the HIV-1 gp120 envelope. *Virology.* 2008 Mar 15;372(2):233-46.
- 445.Zwick MB, Komori HK, Stanfield RL, Church S, Wang M, Parren PW, et al. The long third complementarity-determining region of the heavy chain is important in the activity of the broadly neutralizing anti-human immunodeficiency virus type 1 antibody 2F5. *J Virol.* 2004 Mar;78(6):3155-61.
- 446.Zwick MB, Labrijn AF, Wang M, Spenlehauer C, Saphire EO, Binley JM, et al. Broadly neutralizing antibodies targeted to the membrane-proximal external region of human immunodeficiency virus type 1 glycoprotein gp41. *J Virol.* 2001 Nov;75(22):10892-905.
- 447.Sheehy AM, Gaddis NC, Choi JD, Malim MH. Isolation of a human gene that inhibits HIV-1 infection and is suppressed by the viral Vif protein. *Nature.* 2002 Aug 8;418(6898):646-50.
- 448.Sheehy AM, Gaddis NC, Malim MH. The antiretroviral enzyme APOBEC3G is degraded by the proteasome in response to HIV-1 Vif. *Nat Med.* 2003 Nov;9(11):1404-7.
- 449.Neil SJ, Zang T, Bieniasz PD. Tetherin inhibits retrovirus release and is antagonized by HIV-1 Vpu. *Nature.* 2008 Jan 24;451(7177):425-30.

450. Arnold E, Sarafianos SG. Molecular biology: an HIV secret uncovered. *Nature*. 2008 May 8;453(7192):169-70.
451. Negroni M, Buc H. Mechanisms of retroviral recombination. *Annu Rev Genet*. 2001;35:275-302.
452. Galetto R, Negroni M. Mechanistic features of recombination in HIV. *AIDS Rev*. 2005 Apr-Jun;7(2):92-102.
453. Fan J, Negroni M, Robertson DL. The distribution of HIV-1 recombination breakpoints. *Infect Genet Evol*. 2007 Dec;7(6):717-23. Epub 2007 Jul 28.
454. Vidricaire G, Tremblay MJ. [For a better understanding of the mechanisms involved in vertical transmission of HIV]. *Med Sci (Paris)*. 2004 Aug-Sep;20(8-9):784-7.
455. Van de Perre P. Pathogenic Mechanisms of HIV Transmission by Breastfeeding. the 4th IAS Conference on HIV Pathogenesis, Treatment and Prevention. Sydney, Australia; 2007.
456. Bhoopat L, Khunamornpong S, Sirivatanapa P, Rithaporn T, Lerdsrimongkol P, Thorner PS, et al. Chorioamnionitis is associated with placental transmission of human immunodeficiency virus-1 subtype E in the early gestational period. *Mod Pathol*. 2005 Oct;18(10):1357-64.
457. Mwanyumba F, Gaillard P, Inion I, Verhofstede C, Claeys P, Chohan V, et al. Placental inflammation and perinatal transmission of HIV-1. *J Acquir Immune Defic Syndr*. 2002 Mar 1;29(3):262-9.
458. Schwartz DA, Sungkarat S, Shaffer N, Laosakkitiboran J, Supapol W, Charoenpanich P, et al. Placental abnormalities associated with human immunodeficiency virus type 1 infection and perinatal transmission in Bangkok, Thailand. *J Infect Dis*. 2000 Dec;182(6):1652-7.
459. WHO. Antiretroviral drugs for treating pregnant women and preventing HIV infection in infants: towards universal access, Recommendations for a public health approach.; 2006.