

เอกสารอ้างอิง

1. Rigau-Perez JG, Clark GG, Gubler DJ, Reiter P, Sanders EJ, Vorndam AV. Dengue and dengue haemorrhagic fever. *Lancet* 1998; 352(9132): 971-977.
2. Dengue and dengue haemorrhagic fever. WHO fact sheet No. 117. 2002. 3. World Health Organization. Weekly epidemiological record. WHO Geneva 2002; 6(77): 41-48.
3. World Health Organization. Weekly epidemiological record. WHO Geneva 2002; 6(77): 41-48.
4. Gubler DJ. Epidemic dengue/dengue haemorrhagic fever as a public health, social and economic problem in 21st century. *Trends Microbiol* 2002; 10(2): 100-103.
5. Gubler DJ. Dengue and dengue haemorrhagic fever. *Clin Microbiol Rev* 1998; 11(3): 480-496.
6. Dengue Fever and Dengue Haemorrhagic fever. Centers for Disease Control and prevention. [updated 2002 Feb 13; cited 2004 June 9].
Available from: <http://www.cdc.gov/ncidod/dvbid/dengue>.
7. Lin, Y et al. Study of dengue virus infection in SCID mice engrafted with human K562 cells. *J Virol* 1999; 72(12): 9729-9730.
8. Westaway EG, Brinton MA, Gaidamovich SY, Horzinek MC, Igarashi A, Kaariainen L et al. *Flaviviridae*. *Intervirology* 1985; 24(4): 183-192.
9. Nimmannitya S. Dengue haemorrhagic fever with unusual clinical manifestations. *Asian J Trop Med Public Health* 1987; 18: 398-406.
10. Halstead SB. Antibody, macrophages, dengue virus infection, shock, and hemorrhage: a pathogenic cascade. *Rev Infect Dis* 1989; 11 Suppl 4: S830-9.
11. Nelson ER, Bierman HR, Chulajata R. Hematologic phagocytosis in postmortem bone marrows of dengue haemorrhagic fever. (Hematologic phagocytosis in Thai hemorrhagic fever). *Am J Med Sci* 1966; 252(1): 68-74.
12. Monath TP, Heinz FX. Flaviviruses. In: Fields BM, et.al., editors. *Field virology*. Lippincott-Raven Publishers, 1996: 961-1034.
13. Bhamarapravati N, Sutee Y. Live attenuated tetravalent dengue vaccine. *Vaccine* 2000; 18 Suppl 2: 44-47.
14. Kanesa-athan N, Sun W, Kim-Ahn G, Van Albert S, Putnak JR, King A, Raengsakulrach B, Christ-Schmidt H, Gilson K, Zahradnik JM, Vaughn I, Innis BL, Saluzzo J, Hoke CH Jr. Safety and immunogenicity of attenuated dengue virus vaccines (Aventis Pasteur) in human volunteers. *Vaccine* 2001; 19(23-24): 3179-3188.
15. Huang CY. Chimeric dengue type 2 (vaccine strain PDK-53)/dengue type 1 as a potential candidate type 1 virus vaccine. *J Virol* 2000; 74(7): 3020-3028.
16. Kochel T. A dengue virus serotype-1 DNA vaccine induces virus neutralizing antibodies and provide protection from viral challenge in Aotus monkeys. *Vaccine* 2002; 18(27): 3166-3173.
17. Porter AG, Davidson EW, Liu JW. Mosquitocidal toxins of *Bacilli* and their genetic manipulation of effective biological control of mosquitoes. *Microbiol Rev* 1993; 57(4): 838-861.

18. Chambers TJ, Hahn CS, Galler R, Rice CM. Flavivirus genome organization, expression, and replication. *Annu Rev Microbiol* 1990; 44: 649-688.
19. Billoir F, de Chesse R, Tolou H, de Micco P, Gould EA, de Lamballerie X. Phylogeny of the genus Flavivirus using complete coding sequence of arthropod-borne viruses and viruses with no known vector. *J Gen Virol* 2000; 81(Pt 3): 781-790.
20. Irie K, Mohan PM, Sasaguri Y, Putnak R, Padmanabhan R. Sequence analysis of cloned gengué virus type 2 genome (Znew Guinea-C strain). *Gene* 1989; 75(2): 197-211.
21. Markoff L. In vitro processing of dengue virus structural proteins: cleavage of the pre-membrane protein. *J Virol* 1989; 63(8): 217-228.
22. Ruiz-Linares A, Cahour A, Despres P, Girard M, Bouloy M. Processing of yellow fever virus polyprotein: role of cellular proteases in maturation of the structural proteins *J Virol* 1989; 63(10): 4199-4209.
23. Cahour A, Falgout B, Lai CJ. Cleavage of the dengue virus polyprotein at the NS3/NS4A and NS4B/NS5 junctions is mediated by viral protease NS2B/NS3, whereas NS4A/NS4B may be processed by a cellular protease. *J Virol* 1992; 66(3): 1535-1542.
24. Falgout B, Chanock R, Lai CJ. Proper processing of dengue virus nonstructural glycoprotein NS1 requires the N-terminal hydrophobic signal sequence and the downstream nonstructural protein NS2A. *J Virol* 1989; 63(5): 1852-1860.
25. Hori H, Lai CJ. Cleavage of dengue virus NS1-NS2A requires an octapeptide sequence at the C terminus of NS1. *J Virol* 1990; 64(9): 4573-4577.
26. Falgout B, Markoff L. Evidence that flavivirus NS1-NS2A cleavage is mediated by a membrane-bound host protease in the endoplasmic reticulum. *J Virol* 1995; 69(11): 7232-7243.
27. Randolph VB, Winkler G, Stolar V. Acidotropic amines inhibit proteolytic processing of flavivirus prM protein. *Virology* 1990; 174(2): 450-458.
28. Falgout B, Pethel M, Zhang YM, Lai CJ. Both nonstructural proteins NS2B and NS3 are required for the proteolytic processing of dengue virus nonstructural proteins. *J Virol* 1991; 65(5): 2467-2475.
29. Arias CF, Preugschat F, Strauss JH. Dengue 2 virus NS2B and NS3 form a stable complex that can cleave NS3 within the helicase domain. *Virology* 1993; 193(2): 888-899.
30. Lin C, Amberg SM, Chambers TJ, Rice CM. Cleavage at the novel site in the NS4A region by the yellow fever virus NS2B-3 proteinase is a prerequisite for processing at the downstream 4A/4B signalase site. *J Virol* 1993; 67 (4): 2327-2335.
31. Lobigs M. Flavivirus premembrane protein cleavage and spike heterodimer secretion require the function of the viral proteinase NS3. *Proc Natl Acad Sci USA* 1993; 90(13): 6218-6222.
32. Teo KF, Wright PJ. Internal proteolysis of the NS3 protein specified by dengue virus 2. *J Gen Virol* 1997; 78(Pt 2): 337-341.

33. Li H, Clum S, You S, Ebner KE, Padmanabhan R. The serine protease and RNAstimulated nucleoside triphosphatase and RNA helicase functional domains of dengue virus type 2 NS3 converge within a region of 20 amino acids. *J Virol* 1999; 73(4): 3108-3116.
34. Wengler G, Wengler G. The NS3 nonstructural protein of flaviviruses contains an RNA triphosphatase activity. *Virology* 1993; 197(1): 265-273.
35. Warrenner P, Tamura JK, Collett MS. RNA-stimulated NTPase activity associated with yellow fever virus NS3 protein expressed in bacteria. *J Virol* 1993; 67(2): 989-996.
36. Cui T, Sugrue RJ, Xu Q, Lee AK, Chan YC, Fu J. Recombinant dengue virus type 1 NS3 protein exhibits specific viral RNA binding and NTPaseactivity regulated by the NS5 protein. *Virology* 1998; 246(2): 409-417.
37. Kapoor M, Zhang L, Ramachandra M, Kusukawa J, Ebner KE, Padmanabhan R. Association between NS3 and NS5 proteins of dengue virus type 2 in the putative RNA replicase is linked to differential phosphorylation of NS5. *J Biol Chem* 1995; 270(32): 19100-19106.
38. Bartholomeusz AI, Wright PJ. Synthesis of dengue virus RNA in vitro: initiation and the involvement of proteins NS3 and NS5. *Arch Virol* 1993;128(1-2): 111-121.
39. Gorbalenya AE, Donchenko AP, Koonin EV, Blinov VM. N-terminal domains of putative helicases of flavi-and pestiviruses may be serine proteases. *Nucleic Acids Res* 1989; 17(10): 3889-3897.
40. Bazan JF, Fletterick RJ. Detection of a trypsin-like serine protease domain in flaviviruses and pestiviruses. *Virology* 1989; 171(2): 637-639.
41. Chambers TJ, Weir RC, Grakoui A, McCourt DE, Bazan JF, Fletterick RJ et al. Evidence that the N-terminal domain of nonstructural protein NS3 from yellow fever virus is a serine protease responsible for site-specific cleavage in the viral poly protein. *Proc Natl Acad Sci USA* 1990; 87(22): 8898-8902.
42. Preugschat F, Yao CW, Strauss JH. In vitro processing of dengue virus type 2 nonstructural proteins NS2A, NS2B and NS3. *J Virol* 1990; 64(9): 4367- 4374.
43. Wengler G, Czaya G, Färber PM, Hegemann JH. In vitro synthesis of West Nile virus protein indicates that the amino-terminal segment of the NS3 protein contains the active centre of the protease which cleaves the viral polyprotein after multiple basic amino acids. *J Gen Virol* 1991; 72(Pt 4): 851-858.
44. Falgout B, Miler RH, Lai CJ. Deletion analysis of dengue virus type 4 nonstructural protein NS2B: identification of a domain required for NS2BNS3 protease activity. *J Virol* 1993; 67(4): 2034-2042.
45. Clum S, Ebner KE, Padmanabhan R. Cotranslational membrane insertion of the serine proteinase precursor NS2B-NS3(Pro) of dengue virus type 2 is required for efficient in vitro processing and is mediated through the hydrophobic regions of NS2B. *J Biol Chem* 1997; 272(49): 30715-30723.
46. Brinkworth RI, Fairlie DP, Leung D Young PR. Homology model of the dengue 2 virus NS3 protease: putative interactions with both substrate and NS2B cofactor. *J Gen Virol* 1999; 80(Pt 5): 1167-1177.

47. Yusof R, Clum S, Wetzel M, Murthy HM, Padmanabhan R. Purified NS2B/NS3 serine protease of dengue virus type 2 exhibits cofactor NS2B dependence for cleavage of substrates with dibasic amino acids in vitro. *J Biol Chem* 2000; 275(14): 9963-9969.
48. Leung D, Schroder K, White H, Fang NX, Stoermer MJ, Abbenante G et al. Activity of recombinant dengue 2 virus NS3 protease in the presence of a truncated NS2B co-factor, small peptide substrates, and inhibitors. *J Biol Chem* 2001; 276(49): 45762-45771.
49. Niyomrattanakit P, Winoyanuwattikun P, Chanprapaph S, Angsuthanasombat C, Panyim S, Katzenmeier G. Identification of residues in the dengue virus type 2 NS2B cofactor that are critical for NS3 protease activation, *J Virol* 2004; 78(24): 13708-13716.
50. Murthy HM, Clum S, Padmanabhan R. Dengue virus NS3 serine protease. Crystal structure and insights into interaction of the active site with substrates by molecular modeling and structural analysis of mutational effects. *J Biol Chem* 1999; 274(9): 5573-5580.
51. Murthy HM, Judgen K, DeLucas L, Padmanabhan R. Crystal structure of Dengue virus NS3 protease in complex with a Bowman-Birk inhibitor: implication for flaviviral polyprotein processing and drug design. *J Mol Biol* 2000; 301(4): 759-767.
52. Lesk AM, Fordham WD. Conservation and variability in the structures of serine proteinases of the chymotrypsin family. *J Mol Biol* 1996; 258(3): 501-537.
53. Love RA, Parge HE, Wickersham JA, Hostomsky Z, Habuka N, Moomaw EW et al. The crystal structure of hepatitis C virus NS3 proteinase reveals a trypsin-like fold and a structural zinc binding site. *Cell* 1996; 87(2): 331-342.
54. Walker B, Lynas JF. Strategies for the inhibition of serine proteases. *Cell Mol Life Sci* 2001; 58(4): 596-624.
55. Schechter I, Berger A. On the size of the active site in proteases. I. Papain. *Biochem Biophys Res Commun* 1967; 27(2): 157-162.
56. Khumthong R, Niyomrattanakit P, Chanprapaph S, Angsuthanasombat C, Panyim S, Katzenmeier G. Steady-state cleavage kinetics for dengue virus type 2 NS2B-NS3(pro) serine protease with synthetic peptides. *Prot Pept Letts* 2003; 10(1): 19-26.
57. Morris GM, Goodsell DS, Huey R, Hart WE, Halliday S, Belew R, Olson AJ. Autodock Version 3.0.3., The Scripps Research Institute, Molecular Graphics Laboratory, 1999.
58. Morris GM, Goodsell DS, Halliday RS, Huey R, Hart WE, Belew RK, Olson AJ. Automated docking using a Lamarckian genetic algorithm and an empirical binding free energy function. *J Comput Chem* 1998; 19: 639-1662.
59. Chanprapaph S, Saparpakorn P, Sangma C, Niyomrattanakit P, Hannongbua S, Angsuthanasombat C, Katzenmeier G. (2005) Competitive inhibition of the dengue virus NS3 serine protease by synthetic peptides representing polyprotein cleavage sites. *Biochem. Biophys. Res. Commun.* 2005; 20;330(4):1237-46.