

## REFERENCES

1. World Health Organization. Traditional Medicine Strategy. Washington DC, WHO Regional office for the Americas/Pan American Health Organization, 2002-2005: 11-12.
2. Subcharoen P. Present status of traditional medicine in Thailand. Proceeding of the: International seminar on value and utilization of traditional medicine in health development. Queen Sirikit National Convention Center, Bangkok, 1995; 292-302.
3. Mazumder MS. Contribution of traditional medicine to the treatment of the people of developing nations. Proceeding of the: International seminar on value and utilization of traditional medicine in health development. Queen Sirikit National Convention Center, Bangkok, 1995; 286-290.
4. Lewis DA. Anti-inflammatory drugs from plant and marine source. England: Birmingham B4 7ET, 1989.
5. Hamid AA, Shah ZM, Musa R, Mohammand S. Characterization of antioxidative activities of various extracts of *Centella asiatica* (Linn.) Urban. Food Chemistry 2002; 77: 465-469.
6. Duke JA, Handbook of Medicinal Herbs. 1st ed. New York: CRC Press, 2001.
7. Somchit MN, Sulaiman MR, Zuraini A, Samsuddin L, Somchit N, Israf DA, et al. Antinociceptive and anti-inflammatory effect of *Centella asiatica*. Indian Journal of Pharmacology 2004; 36: 377-380.

8. Panthong A, Kanjanapothi D, Taesotikul T, Wongcome T, Reutrakul V. Anti-inflammatory and antipyretic properties of *Celrodendrum patasites* S. Moore. *Journal of Ethnopharmacology* 2003; 85: 151-156.
9. Wanicha S. Anti-inflammatory activity and vascular effect of methanol extract from *Cissus quadrangularis* Linn. A thesis submitted to the Graduate School in partial fulfillment of the requirements for the degree of master of science in pharmacology, Ching Mai University 2005.
10. Ballou SP, Kushner I. Laboratory evaluation of inflammation. *Textbook of Rheumatology*, 1993: 671-679.
11. Fantone JC, Ward PA. Inflammation. In: Rubin E, Farber JL, editors. *Pathology*. 3rd ed. Philadelphia: Lippincott-Raven, 1999: 36-75.
12. Mitchell RN, Cotran RS. Acute and chronic inflammation. In: Kumar V, Cotran RS, Robbin SL, editors. *Robbins basic pathology*. 7th ed. Philadelphia: WB Saunders, 2003: 48-85.
13. Bowman WC, Rand D. The immune system and inflammatory mechanism. In: *Immunosuppressant and anti-inflammatory drugs*. *Textbook of pharmacology*. 2nd ed. London: Blackwell Scientific Publication, 1980: 13.1-13.35.
14. Furst DE, Munster T. Nonsteroidal anti-inflammatory drugs, disease-modifying antirheumatic drugs, nonopioid analgesics and drugs used in gout. In: Katzung BG, editor. *Basic and clinical pharmacology*. 8th ed. New York: McGraw-Hill, 2001: 596-623.
15. Chandrasoma P, Taylor CR. Chronic inflammation. In: Chandrasoma P, Taylor CR, editors. *Concise pathology*. 2nd ed. East Norwalk: Appleton & Lange; 1995: 69-77.

16. Babe KS, Serafin WE. Histamine, bradykinin and their antagonists. In: Hardman JG, Limbird LE, editors. Goodman & Gilman's the pharmacological basis of therapeutics. 10th ed. New York: McGraw-Hill Companies, 1999: 581-600.
17. Owen DA. Inflammation–Histamine and 5-hydroxytryptamine. British Medical Bulletin 1987; 43(2): 256-269.
18. Sommer C. Serotonin in pain and analgesia: actions in the periphery. Molecular Neurobiology 2004; 30(2): 117-125.
19. Rang HP. Dale MM, Ritter JM. Other peripheral mediators: 5-hydroxytryptamine and purines. 3rd ed. London: Churchill Livingstone, 1995: 177-190.
20. O'Connor TM, O'Connell J, O'Brien DJ. The role of substance P in inflammatory disease. Journal of Cellular Physiology 2004; 201(2): 167-180.
21. Foegh ML, Ramwell PW. The eicosanoids: Prostaglandins, tromboxanes, leukotrienes, & related compounds. In: Katzung BG, editors. Basic and clinical pharmacology. 8th ed. New York: McGraw-Hill Companies, 2001: 314-315.
22. Reid IA. Vasoactive peptides. In: Katzung BG, editors. Basic clinical pharmacology. 8th ed. New York: McGraw-Hill Companies, 2001: 298-301.
23. Salmon JA, Higgs GA. Prostaglandins and leukotrienes as inflammatory mediators. British Medical Bulletin 1987; 43(2): 285-296.
24. Morrow JD, Ramwell II LJ. Eicosanoids and platelet-activating factor. In:

- Hardman JG, Limbird LE, editors. Goodman & Gilman's the pharmacological basis of therapeutics. 10th ed. New York: McGraw Hill, 2001: 669-680.
25. Abe M, Oka T, Hori T, Takahashi S. Prostanoids in the preoptic hypothalamus mediate systemic lipopolysaccharide-induced hyperalgesia in rats. *Brain Research* 2001; 916(1-2): 41-49.
  26. Pang L, Knox AJ. Effect of interleukin-1 beta, tumor necrosis factor-alpha and interferon-gamma on the induction of cyclo-oxygenase-2 in cultured human airway smooth muscle cells. *British Journal of Pharmacology* 1997; 121(3): 579-587.
  27. Furst DE, Hillson J. Aspirin and other nonsteroidal anti-inflammatory drugs. In: Koopman WJ, editor. *Arthritis and allied conditions*. 14th ed. Philadelphia: Lippincott Williams and Wilkins, 2001: 665-716.
  28. Graham GG, Scott KF. Mechanism of action of paracetamol. *American Journal Of Therapeutics* 2005; 12(1): 46-55.
  29. Chandrasekharan NV, Dai H, Roos KL, Evanson NK, Tomsik J, Elton TS, et al. COX-3, a cyclooxygenase-1 variant inhibited by acetaminophen and other analgesic/antipyretic drugs: cloning, structure, and expression. *Proceedings of the National Academy of Sciences USA* 2002; 99: 13926-13931.
  30. Piper PJ. Formation and actions of leukotrienes. *Physiological Reviews* 1984; 64:744-761.
  31. Waller DG, Renwick AG, Hillier K. Non-steroidal anti-inflammation drugs. In: *Medical pharmacology and therapeutics*. 1st ed. Spain: Harcourt Publishers Ltd., 2001: 305-314.

32. Griswold DE, Marshall J, Webb EF, Godfrey R, Newton Jr J, Di Martino MJ, et al. SK&F 86002: A structure novel anti-inflammatory agent that inhibits lipoxygenase and cyclooxygenase mediated metabolism of arachidonic acid. *Biochemical Pharmacology* 1987; 36(20): 3463-3470.
33. Bertolini A, Ottani A, Sandrini M. Dual acting anti-inflammatory drugs: a reappraisal. *Pharmacology Research* 2001; 44(6): 437-450.
34. Coleman R. Eicosanoid receptors. In: Dale MM, Foreman JC, Fan TD, editoies. *Textbook of Immunology*. 3ed. Oxford. Blackwell Scientific Publications, 1994: 143-154.
35. Walker K, Perkins M, Dray A. Kinins and kinin receptors in the nervous system. *Neurochemistry International* 1995; 26(1): 1-16.
36. Vargaftig BB, Braquet PG. PAF-acether today-relevance for acute experimental anaphylaxis. *British Medical Bulletin* 1987; 43(2): 312-335.
37. Benjamini E, Coico R, Sunshine G. Elements of innate and acquired immunity. In: *Immunology: A Short Course*. 4th ed. New York: Wiley-Liss. Inc., 2000: 17-39.
38. Robber II LJ, Morrow JD. Analgesic-antipyretic and anti-inflammatory agents and drugs employed in the treatment of gout. In: Hardman JG, Limbird LE, editors. *Goodman & Gilman's the pharmacological basis of therapeutics*. 10th ed. New York: McGraw Hill Companies, 2001: 687-731.
39. Janeway CA, Travers P, Walport M, Capra JD. Host defense against infection. In: *Immunobiology: The immune system I health and disease*. 4th ed. New York: Garland Publishing, 1999: 363-415.

40. Thomas G, Ramwell PW. Nitric oxide, donors, & inhibitors. In: Katzung BG, editor. Basic and clinical pharmacology. 8th ed. New York: McGraw-Hill, 2001: 326-331.
41. Kontogiorgis CA, Hadjipavlou-Litina DJ. Non steroid anti-inflammatory and anti-allergy agents. Current Medicinal Chemistry 2002; 9(1): 89-98.
42. Fiorucci S, Meli R, Bucci M, Cirino G. Dual inhibitors of cyclooxygenase and 5-lipoxygenase. A new avenue in anti-inflammatory therapy. Biochemical Pharmacology 2001; 62(11): 1433-1438.
43. Ankarath S, Raman R, Giannoundis PV. Non-steroidal anti-inflammatory drugs in orthopaedic practice: an update. Current Orthopaedics 2003; 17: 144-149.
44. Masferrer JL , Zweifel BS, Manning PT. Selective inhibition of inducible cyclooxygenase-2 *in vivo* is anti-inflammatory and nonulcerogenic. Proceedings of the National Academy of Sciences USA 1994; 91: 3228-3232.
45. Coppelli G, Guaita E, Spaggiari S, Coruzzi G. Gastric effects of the selective cyclooxygenase-2 inhibitor, celecoxib in the rat. Digestive and Liver Disease 2004; 36: 265-270.
46. Ismail S, Fza HR. Controversies in the treatment of common anal problems. World Journal of Gastroenterology 2006; 12(20): 3146-3154.
47. Sedgwick AD, Willoughby DA. Animal models for testing drugs on inflammatory and hypersensitivity reaction. In: Dale MM, Foreman JC, editors. Textbook of Immunology. Oxford: Blackwell Scientific Publications, 1989: 253-261.
48. Brattsand R, Thalen A, Roempler K, Kallstrom L, Gruvstad E. Influence of 16  $\alpha$ , 17  $\alpha$ -acetal substitution and steroid nucleus fluorination on the topical to

- systemic activity ratio of glucocorticoids. *Journal of Steroids Biochemistry* 1982; 16(6): 779-786.
49. Winter CA, Risley EA, Nuss GW. Carrageenin-induced edema in hind paw of the rat as an assay for anti-inflammatory drug. *Proceeding of the Society for Experimental Biology and Medicine* 1962; 11: 544-547.
50. Vinegar R, Schreiber W, Hugo R. Biphasic development of carrageenin edema in rats. *The Journal of Pharmacology and Experimental Therapeutics* 1969; 166(1): 96-103.
51. Pack MJ, Piper PJ, Wiliums TJ. The effect of leukotrienes C<sub>4</sub> and D<sub>4</sub> on the microvasculature of guinea-pig skin. *Prostaglandins* 1981; 21: 315-321.
52. Di Martino MJ, Campbell GK, Wolff CE, Hanna N. The pharmacology of arachidonic acid-induced rat paw edema. *Agents Actions* 1987; 21(3-4): 303-305.
53. Hunskaar S, Fasmer OB, Hole K. Formalin test in mice, a useful technique for evaluating mild analgesics. *Journal of Neuroscience Methods* 1985; 14: 69-76.
54. Shibata M, Ohkubo T, Takahashi H, Inoki R. Modified formalin test: characteristic biphasic pain response. *Journal of Pain* 1989; 38: 347-352.
55. Dubuisson D, Dennis SG. The formalin test: a quantitative study of the analgesic effects of morphine, meperidine, and brain stem stimulation in rats and cats. *Journal of Pain* 1977; 4: 161-174.
56. Heapy CG, Jamieson A, Russell NJW. Afferent C-fiber and A-delta activity in models of inflammation. *British Journal of Pharmacology* 1987; 90: 164.

57. Ito S, Okuda-Ashitaka E, Minami T. Central and peripheral role of prostaglandins in pain and their interactions with novel neuropeptides nociceptin and nocistatin. *Journal of Neuroscience Research* 2001; 41: 299-332.
58. Tjolsen A, Berge OG, Hunskaar S, Rosland JH, Hole K. The formalin test: an evaluation of the method. *Journal of Pain* 1992; 51: 5-17.
59. Hunskaar S, Hole K. The formalin test in mice: dissociation between inflammatory and non-inflammatory pain. *Journal of Pain* 1987; 30(1): 103-114.
60. Altura BM, Malaviya D, Reich CF, Orkin LR. Effect of vasoactive agent on isolated human umbilical arteries and veins. *American Journal of Physiology* 1972; 222: 345.
61. เต็ม สมิตินันทน์. ชื่อพรรณไม้แห่งประเทศไทย ฉบับแก้ไขเพิ่มเติม พ.ศ. 2544. ส่วนพุกนศาสตร์ป่าไม้ สำนักวิชาการป่าไม้ กรมป่าไม้, 2544. 40.
62. สนั่น ศุภชีรศกุล. สมุนไพรกับการรักษาโรคศิริสิดวงทวารหนัก. รายการยาและสุขภาพเพื่อชีวิต. ฝ่ายวิชาการ คณะเภสัชศาสตร์ มหาวิทยาลัยสงขลานครินทร์, 2545. 55.
63. สำนักงานข้อมูลสมุนไพร คณะเภสัชศาสตร์ มหาวิทยาลัยหิคุ. สมุนไพร ใหม่ปั้นบ้าน (5). (พิมพ์ครั้งที่ 1). กรุงเทพฯ: บริษัท ประชาชน จำกัด, 2541: 357-359.
64. Moldenke HN, Moldenke AL, and Fosberg FR. A revised handbook to the flora of Ceylon 1984; 4: 407-423.
65. Jaya G, Naidu KC, and Ganapaty S. Phytochemical examination of the stem of *Clerodendrum serratum* (Linn.) Moon. *India Drugs* 1997; 34: 208-210.
66. Narayanan N, Thirugnanasambantham P, Viswanathan S, Sukumar E,

Jeyaraman P. Pharmacognostical Studies on the Roots of *Clerodendrum serratum*. Pharmaceutical Biology 2002; 40(5): 362-368.

67. เพ็ญภา ทรัพย์เจริญ. แพทช์ແພນໄไทยກับการรักษาโรคดีดง. วารสารวิชาการแพทช์ 2546. 59.
68. วงศ์สกิต นั่วกลุ่, พร้อมจิต ศรลัมพ์, รุ่งระวี เต็มศิริกุย์กุล, และคณะ. สมุนไพรพื้นบ้าน. กรุงเทพฯ: ออมรินทร์พรินติ้ง แอนด์ พับลิชิ่ง จำกัด (มหาชน), 2538. 70.
69. วงศ์สกิต นั่วกลุ่, พร้อมจิต ศรลัมพ์, รุ่งระวี เต็มศิริกุย์กุล, และ วิชิต เปานิล. สยาม ไภยชพฤกษ์. กรุงเทพฯ: ออมรินทร์พรินติ้ง แอนด์ พับลิชิ่ง จำกัด (มหาชน), 2538: 77.
70. Nadkarni KM. Indian Materia Medicine. Popular Parkashan, Bombay; 1954: 354.
71. The wealth of India. A dictionary of India raw material and industrial products. CSIR, New Delhi: India; 1950.
72. Gupta SS. Development of antihistamine and anti-allergic activity after prolonged administration of a plant saponin from *Clerodendrum serratum*. Journal of Pharmacy and Pharmacology 1968; 20: 801-802.
73. Gupta SS. Indigenous drugs in experimental bronchial asthma. Allergy Application Immunology 1971; 5: 31-42.
74. Gupta SS, Tripathi RM. Effect of chronic treatment of the saponin of *Clerodendrum serratum* on the disruption of mesenteric mast cells. Allergy Application Immunology 1973; 4: 177-88.
75. Narayanan N, Thirugnanasmbantham P, Viswanathan S. Antinociceptive,

- anti-inflammatory and antipyretic effects of ethanol extract of *Clerodendrum serratum* roots in experimental animals. Journal of Ethnopharmacology 1999; 65: 237-241.
76. Department of Health and Human Services. "Diosmin" Food and Drug Administration. Washington, DC 20204, 2000. Available from: <http://www.fda.gov/ohrms/dockets> (8 July 2003).
77. Diana G, Catanzaro M, Ferrara A, Ferrari P. Activity of diosmin in the treatment of hemorrhoids. Clinical Therapeutics 2000; 15(5): 341-344.
78. Gant DW, Dyer DC. D-Lysergic acid diethylamide (LSD-25): A constrictor of human umbilical vein. Life Sciences 1971; 10: 235-240.
79. Sardi SP, Perez H, Antunez P, Rothlin RP. Bradykinin B<sub>1</sub> receptors in human umbilical vein. European Journal of Pharmacology 1997; 321: 33-38.
80. Guyton AC, Hall JE. Resistance of the body to infection: I. Leukocytes, granulocytes, the monocyte-macrophage system, and inflammation. Textbook of medical physiology. 10th ed. Philadelphia: WB Saunders Company, 2000: 392-401.
81. Sertie JA, Basile AC, Panizza S, Matida AK, Zelnik R. Anti-inflammatory activity and sub-acute toxicity of artemetin. Planta Medicine 1990; 56(1): 36-40.
82. Singh B, Gambhir SS, Pandey VB, Joshi VK. Antiinflammatory activity of *Echinops echinatus*. Journal of Ethnopharmacology 1989; 25(2): 189-199.
83. Carlson RP, O'Neill-Davis L, Chang J, Lewis AJ. Modulation of mouse ear edema by cyclooxygenase and lipooxygenase inhibitors and other pharmacologic agents. Agents Actions 1985; 17(2): 197-204.

84. Sigmeth W, Sieberer W. A comparison of the short-term effects of ibuprofen and diclofence in spondylosis. *Journal of International Medical Research* 1980; 6: 369-374.
85. Sirax P. Diclofenac (Voltaren®) for the treatment of osteoarthritis: a double-bind comparison with naproxen. *Journal of International Medical Research* 1977; 44: 456-458.
86. Brooks PM, Hill W, Geddes R. Diclofenac and ibuprofen in rheumatoid arthritis and osteoarthritis. *Medical Journal of Australia* 1980; 1: 29-30.
87. Small RE. Drug reviews: diclofenac sodium. *Clinical Pharmacy* 1989; 8: 545-558.
88. Todd PA, Sorkin EM. Diclofenac sodium: a reappraisal of its pharmacodynamic and pharmacokinetic properties and therapeutic efficacy. *Drugs* 1988; 35: 244-285.
89. Skoutakis VA, Carter CA, Mickle TR, Smith VH, Arkin CR, Alissandrators J, et al. Review of diclofenac and evaluation of its place in therapy as a non-steroidal anti-inflammatory agent. *Drug Intelligence and Clinical Pharmacy* 1988; 22: 805-859.
90. Mahgoub AA. Grapefruit juice potentiates the anti-inflammatory effects of diclofenac on the carrageenan-induced rat's paw oedema. *Pharmacological Research* 2002; 45: 1-4.
91. Menasse R, Medwall PR, Kractz T, Pericin C, Riesterer L, Sallmann A, et al. Pharmacological properties of diclofenac sodium and its metabolites. *Scandinavian Journal of Rheumatology* 1987; 22: 5-16.

92. Al-Tuwaijri AS, Mustafa AA. Verepamil enhances the inhibitory effect of diclofenac on the chemiluminescence of human polymorphonuclear leukocytes and carrageenin-induced rat's paw oedema. International Journal of Immunopharmacology 1992; 14: 83-91.
93. Di Rosa M, Willoughby DA. Screens for anti-inflammatory drugs. Journal of Pharmacy and Pharmacology 1972; 24(2): 89-102.
94. Williams TJ, Morley J. Prostaglandins as potentiators of increased vascular permeability in inflammation. Nature 1973; 246: 215-217.
95. Flower R, Gryglewski R, Herbaczynska CK, Vane JR. Effects of anti-inflammatory drugs on prostaglandin biosynthesis. Nature New Biology 1972; 238: 104-106.
96. Higgs GA, Follenfant RL, Garland LG. Selective inhibition of arachidonate 5-lipoxygenase by novel acetohydroxamic acid: effects on acute inflammatory responses. British Journal of Pharmacology 1988; 94: 547-551.
97. Park ET, Kahng JH, Lee SH, Shin KH. Anti-inflammatory principle from cactus. Fitoterapia 2001; 72(3): 288-290.
98. Suleyman A Ottani A, Sandrini M. Selective COX-2 inhibitors and dual acting anti-inflammatory drugs: critical remarks. Current Medical Chemistry 2002; 9: 1033-1043.
99. Roland JH, Tjolsen A, Maehle B, Hole K. The formalin test in mice: effect of formalin concentration. Pain 1990; 42(2): 235-242.
100. Hunskaa S, Berge OG, Hole K. Antinociceptive effects of orphenadrine citrate in mice. European Journal of Pharmacology 1985; 111: 221-226.

101. Cowan A, Porreca F, Wheeler H. Use of the formalin test in evaluating analgesics. National Institute on Drug Abuse (NIDA) Research Monograph 1989; 95: 116-122.
102. Rosland JH. The formalin test in mice: the influence of ambient temperature. Pain 1991; 45: 211-216.
103. Chen YE, Tsai HY, Wu TS. Anti-inflammatory and analgesic activities from roots of Angelica pubescens. Plants Medicine 1995; 61(1): 2-8.
104. Santos AR. Analysis of the mechanism underlying the antinociceptive effect of the extract of plants from the genus Phyllanthus. General Pharmacology 1995; 26(7): 1499-1506.
105. Vane JR. Prostaglandins in the inflammatory response. In: Lepow IH, Ward PA, editors. Inflammation: Mechanism and control. New York: Academic press, 1972: 261-279.
106. Vane JR. Prostaglandins and the aspirin-like drugs. Hospital Practice 1972: 61-71.
107. Samad TA, Moore KA, Sapirstein A et al. Interleukin-1 beta-mediated induction of COX-2 in the CNS contributes to inflammatory pain hypersensitivity. Nature 2001; 410(6827): 471-475.
108. Frick RW. Three treatments for chronic venous insufficiency: escin, hydroxyethylrutoside, and Daflon®. Angiology 2000; 51(3): 197-205.
109. Cospite M. Double-blind, placebo-controlled evaluation of clinical activity and safety of Daflon® 500 mg in the treatment of acute haemorrhoids. Angiology 1994; 45(6 Pt 2): 566-573.

110. Friesenecker B, Tsai AG, Intaglietta M. Cellular basis of inflammation, edema and the activity of Daflon® 500 mg. International Journal of Medical Microbiology 1995; 15(Suppl 1): 17-21.
  111. Labrid C. Pharmacologic properties of Daflon® 500 mg. Angiology 1994; 45(6 Pt 2): 524-530.
  112. Juteau N, Bakri F, Pomies JP, Foulon C, Rigaudy P, Pillion G, et al. The human saphenous vein in pharmacology: effect of a new micronized flavonoidic fraction (Daflon® 500 mg) on norepinephrine induced contraction. International Angiology 1995; 14(3 Suppl 1): 8-13.