

DAFTAR PUSTAKA

- Abe T, Nawa Y, and Yoshimura K. 1992. Protease Resistant Interleukin-3 Stimulating Components in Excretory and Secretory Products from Adult Worms of *Strongyloides ratti*. *J. of Helminthol.* **66**: 155 – 158.
- Amersham. 2003. Amersham Biosciences, BioDirectory. *Amersham Biosciences Ltd.*
- Anwar H and Zia-ur-Rahman. 2002. Effect of *Ascaridia galli* Infestation on Electrolytes and Vitamins in Chickens. *J. of Biol. Sci.* **2**(10): 650 – 651.
- Armas-Serra CD, Gimenez-Pardo C, and Rodriguez-Caabeiro F. 1993. Presence of Proteolytic Enzymes in *Dicrocoelium dendriticum* Eggs. *Inter. J. for Parasitol.* **23**(5): 681 – 684.
- Athaillah F. 1999. Respon Pertahanan Selaput Lendir Usus Halus Terhadap Infeksi Cacing *Ascaridia galli* Pada Ayam Petelur. *Tesis.* Sekolah Pascasarjana Institut Pertanian Bogor.
- Balqis U. 2004. Pengaruh Pemberian Ekskretori-Sekretori (ES) Cacing *Ascaridia galli* Dewasa, L₂, dan Kombinasinya Terhadap Perubahan Struktur Morfologi Saluran Cerna Ayam Petelur. *Tesis.* Sekolah Pascasarjana Institut Pertanian Bogor.
- Balqis U, Darmawi, dan Tiuria R. 2005. Purifikasi dan Karakterisasi Proteinase dari Substansi Bioaktif Stadium Transisi L₃ – L₄ *Ascaridia galli* dan Aplikasinya Sebagai Kandidat Vaksin Terhadap Ascariidiosis pada Ayam Petelur. *Laporan Riset Unggulan Terpadu.* Kementrian Negara Riset dan Teknologi – RI.
- Balqis U, Darmawi, dan Tiuria R. 2006. Purifikasi dan Karakterisasi Proteinase dari Substansi Bioaktif Stadium Transisi L₃ – L₄ *Ascaridia galli* dan Aplikasinya Sebagai Kandidat Vaksin Terhadap Ascariidiosis pada Ayam Petelur. *Laporan Riset Unggulan Terpadu.* Kementrian Negara Riset dan Teknologi – RI.
- Balqis U, Darmawi, Tiuria R, Priosoeryanto BP, dan Suhartono MT. 2007. Proliferasi Sel Goblet Duodenum, Jejunum, dan Ileum Ayam Petelur Yang Diimunisasi dengan Protein Ekskretori/Sekretori *Ascaridia galli*. *Jurnal Kedokteran Hewan* **1**(2): 7 - 12 (*in press*)
- Bankov I and Barrett. 1993. Sphingomyelin Synthesis in *Ascaridia galli*. *Inter. J. for Parasitol.* **23**(8): 1083 – 1085.
- Bauer C. 2001. Laboratory Technique Procedure. Institute of Parasitology, *Justus Liebig-University*, Giessen-Germany.
- Bendixen T, Emery DL and Jones WO. 1991. The Sensitization of Mucosal Mast Cells During Infection With *Trichostrongylus culubriformis* or *Haemonchus contortus* in Sheep. *Inter. J. for Parasitol.* **25**: 741 - 748.
- Berasain P *et al.*. 1997. Proteinases Secreted by *Fasciola hepatica* Degrade Extracellular Matrix and Basement Membran Components. *J. Parasitol.* **83**(1): 1 – 5.
- Bradford MM. 1976. A Rapid and Sensitive Method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-dye-binding. *J. of Anal. Biochem.* **72**: 254 – 284.
- Buddle BM *et al.* 1992. Association of Blood Eosinophilia with the Expression of Resistance in Ramney Lambs to Nematodes. *Inter. J. for Parasitol.* **22**: 955 – 960.
- Calneck BW. 1997. Disease of Poultry. Tenth Edition. *The Iowa State University*

- Press. Ames, Iowa, USA.
- Camenisch *et al.*. 1999. General Applicability of Chicken Egg Yolk Antibodies: the Performance of IgY Immunoglobulins Raised Against the Hypoxia-inducible Factor 1 α . *FASEB J.*, **13**: 81-88.
- Carlander D. 2002. Avian IgY Antibody: *in vitro* and *in vivo*. *Dissertation*, Acta Universitatis Upsaliensis, Uppsala.
- Castagliuolo *et al.* 1998. Colonic Mucin Release in Response to Immobilization Stress is Mast Cell Dependent. *Am. J. Physiol. Soc.* **274**: G1094 – G1100.
- Cho IH, Choi ES, Lim HG and Lee HH. 2004. Purification and Characterization of Six Fibrinolytic Serine-Proteases from Earthworm *Lubricus rubellus*. *J. Biochem. Mol. Biol.* **37**: 199 – 205.
- Chung YB, Yang HJ, Kang SY, Kong Y and Cho SY. 1997. Activities of Different Cysteine Proteases of *Paragonimus westermani* in Cleaving Human IgG. *Kor. J. of Parasitol.* **35**: 139 – 142.
- Cock HD, Knox DP, Claerebout E, and Graaf DCD. 1993. Partial Characterization of Proteolytic Enzymes in Different Developmental Stages of *Ostertagia ostertagi*. *J. of Helminthol.* **67**: 271 – 278.
- Cotran RS, Kumar V & Collins T. 1999. Diseases of Immunity *in* Robbins Pathologic Basis of Disease. Sixth Edition, Pages: 188 - 259. WB Saunders Company, A Division of Harcourt Brace & Company, The Curtis Center Independence Square West Philadelphia, Pennsylvania 19106.
- Darmawi. 2003. Pengaruh Pemberian Antigen Ekskretori-Sekretori (ES) *Ascaridia galli* Dewasa Terhadap Tanggap Kebal Sel Eosinofil dan Sel Mast Mukosa Usus Halus Ayam Petelur. *Tesis*. Sekolah Pascasarjana Institut Pertanian Bogor.
- Darmawi *et al.*. 2006^a. Protease Activity of Excretory/Secretory Released by Invasive Stage of *Ascaridia galli*. *Proceeding*, Enzymes: Industrial and Medical Prospects, ASEAN Biochemistry Seminar, Surabaya, 6-7th February, 2006.
- Darmawi *et al.*. 2006^b. Protein Concentration of Excretory/Secretory Released by *Ascaridia galli* Larvae. *Proceeding*, The Fifth Regional IMT-GT Uninet Conference & International Seminar, Medan, 22 – 23th June, 2006.
- Denbow DM. 2000. Gastrointestinal Anatomy and Physiology, *in*: Whittow JC (editor). *Sturkie's Avian Physiology*. 5th ed. Academic Press, San Diego, London, *p*: 299 – 325.
- Deplancke B and Gaskins HR. 2001. Microbial Modulation of Innate Defense: Goblet Cells and the Intestinal Mucus Layer. *Am. J. of Clin. Nutr.* **73**(6): 1131S-1141S.
- Douch PGC, Morun PE and Rabel B. 1996. Secretion of Anti-Parasite Substance and Leukotrienes from Ovine Gastro Intestinal Tissues and Isolated Mucosal Mast Cells. *Inter. J. for Parasitol.* **26**: 205 - 211.
- Else KJ and Finkelman FD. 1998. Intestinal Nematode Parasites, Cytokines and Effector Mechanisms. *Inter. J. for Parasitol.* **28**:1145 – 1158.
- Ferrer R, Planas JM, Moreto M.1995. Cell Apical Surface Area in Enterocytes from Chickens Small and Large Intestine During Development. *Poult. Sci.* **74**: 1995 – 2002.
- Ford L, *et al.*. 2005. Characterization of a Novel Filarial Serine Protease Inhibitor, Ov-SPI-1, from *Onchocerca volvulus*, with Potential Multifunctional Roles

- during Development of the Parasite. *J. Biol. Chem.* **280**(49): 40845 – 40856. <http://www.jbc.org/cgi/content/full/> (16 Mei 2006).
- Gabrashanska M, Teodorova SE, Galvez-Morros MM, Tsocheva-Gaytandzhieva N, and Mitov M. 2004^a. Administration of Zn-Co-Mn Basic Salt to Chickens With Ascaridioasis. I. A Mathematical Model for *Ascaridia galli* Populations and Host Growth With and Without Treatment. <http://parasitology.informatik.uni-wuerzburg.de/login/> (13 Oktober 2005)
- Gabrashanska M *et al.*. 2004^b. Administration of Zn-Co-Mn Basic Salt to Chickens with Ascaridioasis. II. Sex Ratio and Microelement Levels in *Ascaridia galli* and in Treated and Untreated Chickens. <http://parasitology.informatik.uni-wuerzburg.de/login/frame.php?link> (13 Oktober 2005)
- Hadas E and Stankiewicz M. 1997. Proteolytic Enzymes of Infective Larvae and Adults of *Trichostrongylus colubriformis* and *Haemonchus contortus*. *Parasitol. Res.* **83**: 47 – 51.
- Harnett W, MacDonald M, Preece G, Patterson M and Parkhouse ME. 1997. Production of Monoclonal Antibodies Against Excretory-Secretory Products of Adult Male *Onchocerca gibsoni*. *J. of Parasitol.* **83**(2): 316 – 319.
- Harris ELV. 1989. Concentration of the Extract. *in* Harris ELV, Angal S, *Editor*. Protein Purification Methods. A Practical Approach. Oxford: IRL Pr. p 125 – 161.
- Henderson SC, Bounous DI, and Lee MD. 1999. Early Event in the Pathogenesis of Avian Salmonellosis. *IAI* **67**: 3580 – 3586.
- Hoste H, Mallet S, and Fort G. 1993. Histopathology of Small Intestinal Mucosa in *Nematodirus spathiger* Infection in Rabbit. *J. of Helminthol.* **67**: 139 – 144.
- Iglesias L, Malagon D, Valero A, Benitez R, and Adroher FJ. 2005. CO₂-fixing Enzymes During Moulting from Third Larval to Fourth Larval Stage of *Anisakis simplex* and *Hysterothylacium aduncum* (Nematoda: Anisakidae). <http://parasitology.informatik.uni-wuerzburg.de/> (04 Oktober 2005)
- Iji PA, Hughes RJ, Choet M and Tivey DR. 2001. Intestinal Structure and Function of Broiler Chickens on Wheat-based Diets Supplemented With a Microbioal Enzyme. *Asian-Aus. J. of Ani. Sci.* **14**: 54 -60.
- Jain NC. 1993. Essentials of Veterinary Hematology. Lea and Febiger, Philadelphia 732 – 752.
- Kanwar S, Hickey MJ and Kubes P. 1998. Postischemic Inflammation: a Role for Mast Cells in Intestine but not in Skeletal Muscle. *Am. Physiol.* **275**: G212 – G218.
- Khan AI, Horii Y, Tiuria R, Satoo Y dan Nawa Y. 1993. Mucosal Mast Cells and the Expulsive Mechanisms of Mice Against *Strongyloides venezuelensis*. *Inter. J. for Parasitol.* **23**:551-555.
- Kim *et al.*. 2000. Cloning and Expression of a Cysteine Proteinase Gene from *Paragonimus westermani* Adult Worms. *J. of Parasitol.* **86**(2): 333 - 339.
- Klei TR. 1997. Immunological Control of Gastrointestinal Nematode Infections. *Vet. Parasitol.* **72**: 507 - 523.
- Knox DP and Jones DG. 1990. Studies on the Presence and the Release of Proteolytic Enzymes (Proteinases) in Gastrointestinal Nematodes of Ruminants. *Inter. J. for Parasitol.* **20**: 243 – 249.

- Kong HH, Kim TH, and Chung DI. 2000. Purification and Characterization of a Secretory Serine Proteinase of *Acanthamoeba healyi* Isolated from Gae. *J. of Parasitol.* **86**(1): 12 – 17.
- Kraneveld AD, Muis T, Koster AS and Nijkamp FP. 1998. Role of Mucosal Mast Cells in Early Vascular Permeability Changes of Intestinal DTH Reaction in the Rat. *Am. J. Physiol.* **274**: G832 – G839.
- Kresno, S.B. 2001. Immunologi: Diagnosis dan Prosedur Laboratorium. Edisi keempat, Pen. *Fakultas Kedokteran Universitas Indonesia*, Jakarta.
- Laemmli UK. 1970. Cleavage of Structural Proteins During the Assembly of the Head of Bacteriophage T4. *The Nature.* **227**: 680 – 685.
- Lagapa JTG, Oku Y, Nonaka N and Kamiya M. 2002. *Taenia taeniaeformis* Larval Product Induces Gastric Mucosal Hyperplasia in SCID Mice. *J. of Vet. Res.* **49**(4): 273 – 285.
- McKeand JB, Knox DP, Duncan JL and Kennedy MW. 1995. Protective Immunisation of Guinea Pigs Against *Dictyocaulus viviparus* Using Excretory/Sexcretory Product of Adult Parasites. *Inter. J. for Parasitol.* **25**: 93 – 104.
- Miller HRP and Nawa Y. 1979. *Nippostrongylus brasiliensis*: Intestinal Goblet Cell Response in Adoptively Immunized Rats. *J. of Exp. Parasitol.* **47**:81-90.
- Nagano *et al.*. 2004. Molecular Expression of a Cysteine Proteinase of *Clonorchis sinensis* and Its Application to an Enzyme-Linked Immunosorbent Assay for Immunodiagnosis of Clonorchiasis. Clinical and Diagnostic Laboratory Immunology. *Am. for Microbiol.* **11**(2): 411-416 <http://cdli.asm.org/cgi/content/full/> (1 Maret 2005)
- Nawa Y, Abe T, and Owhashi M. 1994. Host Response to Helminths with Emphasis on Eosinophils and Mast Cells. In Helminthology. Edition Chowdhury N and Tada I. *Norasa Publishing House*, New Delhi.
- Neuhaus B, Bresciani J, Chistensen CM and Frandse F. 1996. Ultrastructure and Development of the Body Cuticle of *Oesophagostomum dendatum* (Strongylida, Nematode). *J. for Parasitol.* **82**: 820 - 828.
- Palmer T. 1991. Understanding Enzymes. 3rd ed. Ellis Horwood Chichester, West Sussex, England.
- Permin A and Hansen JW. 1998. Epidemiology, Diagnosis and Control of Poultry Parasites. *Food and Agriculture Organization of the United Nations*, Rome.
- Permin A, Nansen P, Bisgaard M, Frandsen and Pearman M. 1998. Studies on *Ascaridia galli* in Chickens Kept at Different Stocking Rates. *J. of Avi. Pathol.* **27**: 382-389.
- Price SA and Wilson LM. 1995. Pathophysiology, Clinical Concepts of Disease Processes. *Fourth Edition*. Anugrah P (Penerjemah), Penerbit Buku Kedokteran EGC, Jakarta.
- Pritchard DI. 1993. Points in Question Why Do some Parasitic Nematodes Secrete Acetylcholinesterase (AChE)?. *Inter. J. for Parasitol.* **23**(5): 549 – 550.
- Rao MB, Tanksale AM, Ghatge MS, and Deshpande VV. 1998. Molecular and Biotechnological Aspect of Microbial Proteases. *Microbiol. Mol.* **62**: 1092 – 2172.

- Rhoads ML, Fetterer RH, and Urban Jr. JF. 1997. Secretion an Aminopeptidase During Transition of Third-to Fourth-Stage Larvae of *Ascaris suum*. *J. of Parasitol.* **83**(5): 780 – 784.
- Rhoads ML, Fetterer RH, and Urban Jr. JF. 2001. Release of Hyaluronidase During *in vitro* Development of *Ascaris suum* from the Third to Fourth Larval Stage. *Parasitol. Res.* **87**(9): 693 - 697.
- Roitt IM and Delves PJ. 2001. Roitt's Essential Immunology. Tenth Edition, *Blackwell Science Ltd*. Osney Mead Oxford OX2 OEL.
- Rothwell TLW et al. 1993. Relationship Between Eosinophilia and Responsiveness to Infection with *Trichostrongylus colubriformis* in Sheep. *Inter. J. for Parasitol.* **23**(5): 203 – 211.
- Ruiz A *et al.*. 2004. Immunoprotection in Goats Against *Haemonchus contortus* After Immunization With Cysteine Protease Enriched Protein Fractions. *Vet. Res.* **35**: 565 – 572.
<http://www.edpsciences.org/articles/vetres/pdf/> (12 Agustus 2006).
- Rukayadi Y dan Suhartono MT. 1999. Penuntun Praktikum Biokimia (BIM.511). *Program Pascasarjana, IPB-Bogor*.
- Satrija F, Murtini S, Retnani EB, dan Ridwan Y. 2004. Pengembangan Metode Diagnosa Dini Infeksi Cacing Pita Pada Ayam Melalui Deteksi Antigen Cacing di Dalam Tinja (Koproantigen). *Laporan Penelitian Hibah Bersaing Perguruan Tinggi XII/1*.
- Shin EH, Osada Y, Sagara H, Takatsu K, and Kojima S. 2001. Involvement of Complement and Fibronectin in Eosinofil-mediated Damage to *Nippostrongylus brasiliensis* Larvae. *Par. Immunol.* **23**(1)
<http://www.blackwell-synergy.com/doi/full/> (16 Mei 2006)
- Soulsby E.J.L. 1982. Helminth, Arthropods and Protozoa of Domesticated Animals. 7rd Ed. *Lea and Febiger*. Philadelphia.
- Stain J, Ries J, and Barret KE. 1998. Disruption of Intestinal Function Associated with Experimental Colitis: Possible Role of Mast Cells. *Am. Physiol.* G203 – G209.
- Stear MJ *et al.* 1995. The Repeatability of Fecal Egg Counts, Peripheral Eosinophil Counts and Plasma Pepsinogen Concentration During Deliberate Infection with *Ostertagia circumcincta*. *Inter. J. Parasitol.* **25**: 375 – 380.
- Steel RGD and Torrie JH. 1999. Prinsip dan Prosedur Statistika: Suatu Pendekatan Biometrik. Edisi ke-2. *Gramedia Pustaka Utama*, Jakarta.
- Subowo. 1993. Immunobiologi. Percetakan Offset Angkasa, Bandung.
- Suhartono MT. 1989. Enzim dan Bioteknologi. Departemen Pendidikan dan Kebudayaan, Direktorat Jenderal Pendidikan Tinggi.
- Suhartono MT. 1993. Protease. Departemen Pendidikan dan Kebudayaan, Direktorat Jenderal Pendidikan Tinggi.
- Suhartono MT. 2000. Protease. *Orasi Ilmiah*. Departemen Pendidikan Nasional, Direktorat Jenderal Pendidikan Tinggi.
- Taiwo VO, Alaka OO, Sadiq NA, Adejinmi JO. 2002. Ascariidosis in Captive Reticulated Python (*Python reticulatus*). *Afr. J. Biomed. Res.* **5**: 93 – 95.
- Takeyama K et al. 1998. Neutrophil-dependent Goblet Cell Deganulation: Role of Membrane-bound Elastase and Adhesion Molecules. *Am. J. Physiol.* **275**: L294 – L302.

- Thenawijaya M. 1989. Dasar-Dasar Biokimia Jilid I. Penerbit Erlangga. Jakarta.
- Tiuria R. 1991. Hubungan Antara Dosis Infeksi, Biologi *Ascaridia galli* dan Produktivitas Ayam Petelur. Tesis. Program Pascasarjana. Program Studi Sains Veteriner, Institut Pertanian Bogor.
- Tiuria *et al.*. 2001. Pengaruh Infeksi Cacing *Ascaridia galli* Terhadap Respon Sel Goblet dan Sel Mast pada Usus Halus Ayam Petelur. *Majalah Parasitologi Indonesia* **13** (1– 2):40 – 48.
- Tiuria R, Ridwan Y and Murtini S. 2003. Study of Bioactive Substance from *Ascaridia galli* Adult Worm that Stimulate Intestinal Mucosal Defense Mechanism in Chicken for Medical Purpose. *Proceeding of the Seminar on Science and Technology*, Indonesia-Toray Science Foundation, Jakarta.
- Tizard IR. 1996. Veterinary Immunology an Introduction. Fifth Edition, WB Saunders Company, a Division of Harcourt Brace and Company. The Curtis Center Independence Square West, Philadelphia, Pennsylvania.
- Todorova VK. 2000. Proteolytic Enzymes Secreted by Larval Stage of the Parasitic Nematode *Trichinella spiralis*. *Fol. Parasitol.* **47**: 141 - 145.
- Vervelde *et al.*. 2003. Vaccination-induced Protection of Lambs Against the Parasitic Nematode *Haemonchus contortus* Correlates With High IgG Antibody Responses to the LDFN Glycan Antigen. *Glycobiol.* **13**(11): 795 – 804.
- Wang F *et al.* 2003. Purification, Characterization, and Crystallization of a Group of Earthworm Fibrinolytic Enzymes from Earthworm *Eisenia fetida*. *Biotechnol. Lett.* **25**: 1105 - 1109.
- Winarsih W. 2005. Pengaruh Probiotik Dalam Pengendalian Salmonellosis Sub Klinis Pada Ayam: Gambaran Patologis dan Performan. *Disertasi*. Sekolah Pascasarjana Institut Pertanian Bogor.
- Woodburg RG and Miller HRP. 1982. Quantitative Analysis of Mucosa Mast Cell Protease in the Intestine of *Nippostrongylus* Infected Rats. *Immunol.* **46**: 487 – 495.
- Yadav SC *et al.*. 2005. *Fasciola gigantica* Cathepsin-L Cysteine Proteinase in the Detection of Early Experimental Fasciolosis in Ruminants. http://parasitology.informatik.uni-wuerzburg.de/login/n/h/j_436_005-1466-8.html.html (21 Februari 2006)
- Yamauchi K and Isshiki Y. 1991. Scanning Electron Microscopic Observation on the Intestinal Vili Growing White Leghorn and Broiler Chicken from 1 to 30 Days of Age. *Brit. Poult. Sci.* **32**: 67 -78.
- Yun *et al.*. 2000. Structural and Immunological Characteristics of a 28-Kilodalton Cruzipain-Like Cysteine Protease of *Paragonimus westermani* Expressed in the Definitive Host Stage. *Clinical and Diagnostic Laboratory Immunology, Am. for Microbiol.* **7**(6):932-939. <http://cdli.asm.org/cgi/content/full/7/6/932?ijkey=039a473bf6c5e0425c007153250f7dbd63c44830> (02 Maret 2005)