

## DAFTAR PUSTAKA

- Abdel-karim, A. E. 1993. TAIL FRACTURE PLANES OF AUTOTOMY IN GECKOS. *Qatar University Science Journal*, 13(2), 288–292.
- Agata, K., Saito, Y., & Nakajima, E. 2007. Unifying principles of regeneration I: Epimorphosis versus morphallaxis. *Development, Growth & Differentiation*, 49(2), 73–78. <https://doi.org/10.1111/j.1440-169x.2007.00919.x>
- Alibardi, L. 2009. *Morphological and Cellular Aspects of Tail and Limb Regeneration in Lizards*. Springer-Verlag.
- Alibardi, L. 2014. Histochemical, Biochemical and Cell Biological aspects of tail regeneration in lizard, an amniote model for studies on tissue regeneration. *Progress in Histochemistry and Cytochemistry*, 48(4), 143–244. <https://doi.org/10.1016/j.proghi.2013.12.001>
- Alibardi, Lorenzo. 2015. Original and regenerating lizard tail cartilage contain putative resident stem / progenitor cells. *Micron*, 78, 10–18. <https://doi.org/10.1016/j.micron.2015.06.003>
- Alves, R., & Grimalt, R. 2018. A Review of Platelet-Rich Plasma: History, Biology, Mechanism of Action, and Classification. *Skin Appendage Disorders*, 4(1), 18–24. <https://doi.org/10.1159/000477353>
- Astarini, F. D., Yunus, J., & Sari, D. C. R. 2017. *The Distribution of BMP3 and the Expressions of BMP3, COL2A1, MGP, and ACAN at Different Stages of Regenerating Tail of Gekko Gecko LINNAEUS 1758*. Universitas Gadjah Mada.
- Bancroft, J. D., & Cook, H. C. 1984. *Manual of Histological Techniques*. Longman Singapore Publisher.
- Bateman, P. W., & Fleming, P. A. 2009. To cut a long tail short: A review of lizard caudal autotomy studies carried out over the last 20 years. *Journal of Zoology*, 277(1), 1–14. <https://doi.org/10.1111/j.1469-7998.2008.00484.x>
- Bellairs, A. D., & Bryant, S. V. 1985. Autotomy and Regeneration in Reptiles. In C. G. A. F. Billet (Ed.), *The Biology of Reptilia* (pp. 303–410). John Wiley & Sons, Inc.
- Bely, A. E. 2010. Evolutionary loss of animal regeneration: Pattern and process. *Integrative and Comparative Biology*, 50(4), 515–527.

<https://doi.org/10.1093/icb/icq118>

Birbrair, A., Zhang, T., Wang, Z. M., Messi, M. L., Enikolopov, G. N., Mintz, A., & Delbono, O. 2013. Role of Pericytes in Skeletal Muscle Regeneration and Fat Accumulation. *Stem Cells and Development*, 22(16), 2298–2314.

<https://doi.org/10.1089>

Boström, K., Tsao, D., Shen, S., Wang, Y., & Demer, L. L. 2001. Matrix GLA Protein Modulates Differentiation Induced by Bone Morphogenetic Protein-2 in C3H10T1/2 Cells. *Journal of Biological Chemistry*, 276(17), 14044–14052.

<https://doi.org/10.1074/jbc.M008103200>

Brockes, J. P., & Kumar, A. 2008. Comparative Aspects of Animal Regeneration. *Annual Review of Cell and Developmental Biology*, 24(1), 525–549.

<https://doi.org/10.1146/annurev.cellbio.24.110707.175336>

Chapple, D. G., McCoull, C. J., & Swain, R. 2002. Changes in Reproductive Investment Following Caudal Autotomy in Viviparous Skinks (*Niveoscincus metallicus*): Lipid Depletion or Energetic Diversion? *Journal of Herpetology*, 36(3), 480. <https://doi.org/10.2307/1566193>

Chen, D., Zhao, M., & Mundy, G. R. 2004. Bone morphogenetic proteins. *Growth Factors*, 22(4), 233–241. <https://doi.org/10.1080/08977190412331279890>

Clause, A. R., & Capaldi, E. A. 2006. Caudal Autotomy and Regeneration in Lizards. *Journal of Experimental Zoology*, 305A, 965–973.

<https://doi.org/10.1002/jez.a>

Cranenburg, E. C. M., Van Spaendonck-Zwarts, K. Y., Bonafe, L., Mittaz Crettol, L., Rödiger, L. A., Dijkers, F. G., Van Essen, A. J., Superti-Furga, A., Alexandrakis, E., Vermeer, C., Schurgers, L. J., & Laverman, G. D. 2011. Circulating matrix  $\gamma$ -carboxyglutamate protein (MGP) species are refractory to vitamin K treatment in a new case of Keutel syndrome. *Journal of Thrombosis and Haemostasis*, 9(6), 1225–1235. <https://doi.org/10.1111/j.1538-7836.2011.04263.x>

Dan, H., Simsa-Maziel, S., Reich, A., Sela-Donenfeld, D., & Monsonego-Ornan, E. 2012. The role of matrix Gla protein in ossification and recovery of the avian growth plate. *Frontiers in Endocrinology*, 3(JUL), 1–11.

<https://doi.org/10.3389/fendo.2012.00079>

- Das, I. 2010. *A field guide to the reptiles of South-East Asia* (p. 375).
- de Rooij, N. 1915. The reptiles of the Indo-Australian archipelago / by Nelly de Rooij. In *The reptiles of the Indo-Australian archipelago / by Nelly de Rooij*. E.J. Brill. <https://doi.org/10.5962/bhl.title.5069>
- Devi, N. A. 2018. Perkembangan Integumen pada Regenerat Ekor Gekko gekko (Linnaeus, 1758). *Seminar*.
- Downes, S. J., & Shine, R. 2001. Why does tail loss increase a lizard's later vulnerability to snake predators? *Ecology*, 82, 1293–1303.
- Duellman, W. E., & Trueb, L. 1986. *Biology of Amphibians*. The Johns Hopkins University Press.
- Everett, M. M., & Miller, W. A. 1974. The role of phosphotungstic and phosphomolybdic acids in connective tissue staining. I. Histochemical studies. *The Histochemical Journal*, 6(1), 25–34. <https://doi.org/10.1007/BF01011535>
- Fisher, R. E., Geiger, L. A., Stroik, L. K., Hutchins, E. D., George, R. M., Denardo, D. F., Kusumi, K., Rawls, J. A., & Wilson-Rawls, J. 2012. A Histological Comparison of the Original and Regenerated Tail in the Green Anole, *Anolis carolinensis*. *Anatomical Record*, 295(10), 1609–1619. <https://doi.org/10.1002/ar.22537>
- Fleming, P. A., & Bateman, P. W. 2012. Autotomy, Tail Regeneration and Jumping ability in Cape Dwarf Geckos ( *Lygodactylus capensis* ) (Gekkonidae). *African Zoology*, 47(1), 55–59. <https://doi.org/10.3377/004.047.0110>
- Gavaia, P. J., Simes, D. C., Ortiz-Delgado, J. B., Viegas, C. S. B., Pinto, J. P., Kelsh, R. N., Sarasquete, M. C., & Cancela, M. L. 2006. Osteocalcin and matrix Gla protein in zebrafish (*Danio rerio*) and Senegal sole (*Solea senegalensis*): Comparative gene and protein expression during larval development through adulthood. *Gene Expression Patterns*, 6(6), 637–652. <https://doi.org/10.1016/j.modgep.2005.11.010>
- Goldring, M. B. 2012. Chondrogenesis, chondrocyte differentiation, and articular cartilage metabolism in health and osteoarthritis. *Therapeutic Advances in Musculoskeletal Disease*, 4(4), 269–285. <https://doi.org/10.1177/1759720X12448454>
- Goldring, M. B., Tsuchimochi, K., & Ijiri, K. 2006. The control of chondrogenesis.

*Journal of Cellular Biochemistry*, 97(1), 33–44.

<https://doi.org/10.1002/jcb.20652>

Hayamizu, T. F., Baldock, R. A., & Ringwald, M. 2015. Mouse anatomy ontologies: enhancements and tools for exploring and integrating biomedical data.

*Mammalian Genome*, 26(9–10), 422–430. <https://doi.org/10.1007/s00335-015-9584-9>

Higham, T. E., Russell, A. P., & Zani, P. A. 2013. Integrative Biology of Tail Autotomy in Lizards. *Physiological and Biochemical Zoology*, 86(6), 603–610.

<https://doi.org/10.1086/673875>

Hsueh, M. F., Önnarfjörð, P., Bolognesi, M. P., Easley, M. E., & Kraus, V. B. 2019. Analysis of “old” proteins unmasks dynamic gradient of cartilage turnover in human limbs. *Science Advances*, 5(10), 1–10.

<https://doi.org/10.1126/sciadv.aax3203>

Hutchins, E. D., Markov, G. J., Eckalbar, W. L., George, R. M., King, J. M., Tokuyama, M. A., Geiger, L. A., Emmert, N., Ammar, M. J., Allen, A. N., Siniard, A. L., Corneveaux, J. J., Fisher, R. E., Wade, J., DeNardo, D. F., Rawls, J. A., Huentelman, M. J., Wilson-Rawls, J., & Kusumi, K. 2014. Transcriptomic analysis of tail regeneration in the lizard *Anolis carolinensis* reveals activation of conserved vertebrate developmental and repair mechanisms. *PLoS ONE*, 9(8), e105004.

<https://doi.org/10.1371/journal.pone.0105004>

Iismaa, S. E., Kaidonis, X., Nicks, A. M., Bogush, N., Kikuchi, K., Naqvi, N., Harvey, R. P., Husain, A., & Graham, R. M. 2018. Comparative regenerative mechanisms across different mammalian tissues. *Npj Regenerative Medicine*, 3(1). <https://doi.org/10.1038/s41536-018-0044-5>

Inouye, M. 1976. Differential Staining of Cartilage and Bone in Fetal Mouse Skeleton by Alcian Blue and Alizarin Red S. *Congenital Anatomy*, 16, 171–173.

Iwamoto, M., Ohta, Y., Larmour, C., & Enomoto-Iwamoto, M. 2013. Toward regeneration of articular cartilage. *Birth Defects Research Part C: Embryo Today: Reviews*, 99(3), 192–202. <https://doi.org/10.1002/bdrc.21042>

Jacyniak, K., McDonald, R. P., & Vickaryous, M. K. 2017. Tail regeneration and other phenomena of wound healing and tissue restoration in lizards. *The Journal*

*of Experimental Biology*, 220(16), 2858–2869.

<https://doi.org/10.1242/jeb.126862>

- Jamison, J. P. 1964. Regeneration Subsequent to Intervertebral Amputation in Lizards. *Herpetologica*, 20(3), 145–149. <https://www.jstor.org/stable/3891036>
- Julien, M., Magne, D., Masson, M., Rolli-Derkinderen, M., Chassande, O., Cario-Toumaniantz, C., Cherel, Y., Weiss, P., & Guicheux, J. 2007. Phosphate stimulates matrix Gla protein expression in chondrocytes through the extracellular signal regulated kinase signaling pathway. *Endocrinology*, 148(2), 530–537. <https://doi.org/10.1210/en.2006-0763>
- Kardong, K. V. 2012. *Vertebrates: Comparative Anatomy, Function, Evolution* (6th ed.). The McGraw-Hill Companies, Inc.
- Kim, S. W., Roh, J., & Park, C. S. 2016. Immunohistochemistry for pathologists: Protocols, pitfalls, and tips. *Journal of Pathology and Translational Medicine*, 50(6), 411–418. <https://doi.org/10.4132/jptm.2016.08.08>
- Kozhemyakina, E., Lassar, A. B., & Zelzer, E. 2015. A pathway to bone: Signaling molecules and transcription factors involved in chondrocyte development and maturation. *Development (Cambridge)*, 142(5), 817–831. <https://doi.org/10.1242/dev.105536>
- Kumar, G. L., & Gill, G. W. 2010. Introduction to Special Stains. In G. L. Kumar & J. A. Kiernan (Eds.), *Special Stains and H & E* (2nd ed., pp. 1–28). Dako North America.
- Lefebvre, V., & Bhattaram, P. 2010. Vertebrate skeletogenesis. In *Current Topics in Developmental Biology* (Vol. 90, Issue C, pp. 291–317). [https://doi.org/10.1016/S0070-2153\(10\)90008-2](https://doi.org/10.1016/S0070-2153(10)90008-2)
- Londono, R., Wenzhong, W., Wang, B., Tuan, R. S., & Lozito, T. P. 2017. Cartilage and Muscle Cell Fate and Origins during Lizard Tail Regeneration. *Frontiers in Bioengineering and Biotechnology*, 5(NOV), 1–9. <https://doi.org/10.3389/fbioe.2017.00070>
- Lozito, T. P., & Tuan, R. S. 2017. Lizard tail regeneration as an instructive model of enhanced healing capabilities in an adult amniote. *Connective Tissue Research*, 58(2), 145–154. <https://doi.org/10.1080/03008207.2016.1215444>
- Luo, G., D'Souza, R., Hogue, D., & Karsenty, G. 1995. The matrix Gla protein gene

is a marker of the chondrogenesis cell lineage during mouse development.

*Journal of Bone and Mineral Research*, 10(2), 325–334.

<https://doi.org/10.1002/jbmr.5650100221>

Luthfi, M. J. 2016. Modified Alizarin Red S-Alcian Blue Staining for Reptilian Skeleton. *Biology, Medicine, & Natural Product Chemistry*, 5(1), 19.

<https://doi.org/10.14421/biomedich.2016.51.19-22>

Mao, A. S., & Mooney, D. J. 2015. Regenerative medicine: Current therapies and future directions. *Proceedings of the National Academy of Sciences*, 112(47), 14452–14459. <https://doi.org/10.1073/pnas.1508520112>

Marx, R. E. 2001. Platelet-rich plasma (PRP): What is PRP and what is not PRP? In *Implant Dentistry* (Vol. 10, Issue 4, pp. 225–228). Lippincott Williams & Wilkins. <https://doi.org/10.1097/00008505-200110000-00002>

McLean, K. E., & Vickaryous, M. K. 2011. A novel amniote model of epimorphic regeneration: The leopard gecko, *Eublepharis macularius*. *BMC Developmental Biology*, 11(August). <https://doi.org/10.1186/1471-213X-11-50>

Mescher, A. L. 2016. *Junqueira's Basic Histology Text and Atlas* (14th ed.). McGraw-Hill Education.

Miljkovic, N. D., Cooper, G. M., & Marra, K. G. 2008. Chondrogenesis, bone morphogenetic protein-4 and mesenchymal stem cells. *Osteoarthritis and Cartilage*, 16(10), 1121–1130. <https://doi.org/10.1016/j.joca.2008.03.003>

Murshed, M., Schinke, T., McKee, M. D., & Karsenty, G. 2004. Extracellular matrix mineralization is regulated locally; different roles of two gla-containing proteins. *Journal of Cell Biology*, 165(5), 625–630. <https://doi.org/10.1083/jcb.200402046>

Nain, Z., Islam, S. A., Hasan, C., & Afroza, S. 2016. Current Understanding on Tail Regeneration in Green Anoles (*Anolis carolinensis*). *Cell Biology*, 4(2), 9. <https://doi.org/10.20944/preprints201608.0195.v1>

Nurhidayat, L., Devi, N. A., & Fadhillah, D. 2020. Histological structure of nerve fiber and blood vessels in regenerated tail of Tokay Gecko (*Gekko gekko* (Linnaeus, 1758). *AIP Conference Proceedings*, 2260(September). <https://doi.org/10.1063/5.0015764>

Nurhidayat, L., Pratama, D. K., Devi, N. A., & Rohmah, Z. 2020. The development



- of integument and muscle in regenerated tail of tokay gecko (*Gekko gekko* Linnaeus, 1758). *AIP Conference Proceedings*, 2260(September), 030009.  
<https://doi.org/10.1063/5.0015759>
- Price, P. A., Otsuka, A. S., Poser, J. W., Kristaponis, J., & Raman, N. 1976. Characterization of a  $\gamma$  carboxyglutamic acid containing protein from bone. *Proceedings of the National Academy of Sciences of the United States of America*, 73(5), 1447–1451. <https://doi.org/10.1073/pnas.73.5.1447>
- Price, Paul A., Nguyen, T. M. T., & Williamson, M. K. 2003. Biochemical characterization of the serum fetuin-mineral complex. *Journal of Biological Chemistry*, 278(24), 22153–22160. <https://doi.org/10.1074/jbc.M300739200>
- Price, Paul A., Urist, M. R., & Otawara, Y. 1983. Matrix Gla protein, a new  $\gamma$ -carboxyglutamic acid-containing protein which is associated with the organic matrix of bone. *Biochemical and Biophysical Research Communications*, 117(3), 765–771. [https://doi.org/10.1016/0006-291X\(83\)91663-7](https://doi.org/10.1016/0006-291X(83)91663-7)
- Proudfoot, D., & Shanahan, C. M. 2006. Molecular mechanisms mediating vascular calcification: Role of matrix Gla protein (review article). *Nephrology*, 11(5), 455–461. <https://doi.org/10.1111/j.1440-1797.2006.00660.x>
- ReptileTalk. 2020. *Tokay Gecko (Gekko gekko)*. <https://www.reptiletalk.net/tokay-gecko/>
- Rigueur, D., & Lyons, K. M. 2014. Whole-mount skeletal staining. In *Methods in Molecular Biology* (Vol. 1130, pp. 113–121). [https://doi.org/10.1007/978-1-62703-989-5\\_9](https://doi.org/10.1007/978-1-62703-989-5_9)
- Sadeghi, F. 2014. *Two Separated Protocols with the Most Important Comments for Skeletal Staining in Embryonic and Adulthood Period in Laboratory Animals*. 11(2), 87–92.
- Sakata-Haga, H., Uchishiba, M., Shimada, H., Tsukada, T., Mitani, M., Arikawa, T., Shoji, H., & Hatta, T. 2018. A rapid and nondestructive protocol for whole-mount bone staining of small fish and *Xenopus*. *Scientific Reports*, 8(1), 1–7. <https://doi.org/10.1038/s41598-018-25836-4>
- Sampogna, G., Guraya, S. Y., & Forgione, A. 2015. Regenerative medicine: Historical roots and potential strategies in modern medicine. *Journal of Microscopy and Ultrastructure*, 3(3), 101–107.

<https://doi.org/10.1016/j.jmau.2015.05.002>

- Sanggaard, K. W., Danielsen, C. C., Wogensen, L., Vinding, M. S., Rydtoft, L. M., Mortensen, M. B., Karring, H., Nielsen, N. C., Wang, T., Thøgersen, I. B., & Enghild, J. J. 2012. Unique Structural Features Facilitate Lizard Tail Autotomy. *PLoS ONE*, 7(12). <https://doi.org/10.1371/journal.pone.0051803>
- Schmitz, N., Laverty, S., Kraus, V. B., & Aigner, T. 2010. Basic methods in histopathology of joint tissues. *Osteoarthritis and Cartilage*, 18(SUPPL. 3), S113–S116. <https://doi.org/10.1016/j.joca.2010.05.026>
- Schurgers, L. J., Cranenburg, E. C. M., & Vermeer, C. 2008. Matrix Gla-protein: The calcification inhibitor in need of vitamin K. *Thrombosis and Haemostasis*, 100(4), 593–603. <https://doi.org/10.1160/TH08-02-0087>
- Seifert, A. W., Monaghan, J. R., Smith, M. D., Pasch, B., Stier, A. C., Michonneau, F., & Maden, M. 2012. The influence of fundamental traits on mechanisms controlling appendage regeneration. *Biological Reviews*, 87(2), 330–345. <https://doi.org/10.1111/j.1469-185X.2011.00199.x>
- Shi, S. R., Liu, C., & Taylor, C. R. 2007. Standardization of immunohistochemistry for formalin-fixed, paraffin-embedded tissue sections based on the antigen-retrieval technique: From experiments to hypothesis. *Journal of Histochemistry and Cytochemistry*, 55(2), 105–109. <https://doi.org/10.1369/jhc.6P7080.2006>
- Sian Rutland, C., Cigler, P., & Kubale, V. 2019. Reptilian Skin and Its Special Histological Structures. *Veterinary Anatomy and Physiology*, 1–21. <https://doi.org/10.5772/intechopen.84212>
- Simpson, S. B. 1964. Analysis of tail regeneration in the lizard *Lygosoma laterale*. I. Initiation of regeneration and cartilage differentiation: The role of ependyma. *Journal of Morphology*, 114(3), 425–435. <https://doi.org/10.1002/jmor.1051140305>
- Spronk, H. M. H., Soute, B. A. M., Schurgers, L. J., Cleutjens, J. P. M., Thijssen, H. H. W., De Mey, J. G. R., & Vermeer, C. 2001. Matrix Gla protein accumulates at the border of regions of calcification and normal tissue in the media of the arterial vessel wall. *Biochemical and Biophysical Research Communications*, 289(2), 485–490. <https://doi.org/10.1006/bbrc.2001.5996>
- Sterzyńska, K., Klejewski, A., Wojtowicz, K., Świerczewska, M., Andrzejewska, M.,



- Rusek, D., Sobkowski, M., Kędzia, W., Brazert, J., Nowicki, M., & Januchowski, R. 2018. The role of matrix gla protein (MGP) expression in paclitaxel and topotecan resistant ovarian cancer cell lines. *International Journal of Molecular Sciences*, 19(10). <https://doi.org/10.3390/ijms19102901>
- Subramaniam, N., Petrik, J. J., & Vickaryous, M. K. 2018. VEGF, FGF-2 and TGFβ expression in the normal and regenerating epidermis of geckos: implications for epidermal homeostasis and wound healing in reptiles. *Journal of Anatomy*, 232(5), 768–782. <https://doi.org/10.1111/joa.12784>
- Suvarna, S. K., Layton, C., & Bancroft, J. D. 2019. *Bancroft's Theory and Practice of Histological Techniques* (S. K. Suvarna, C. Layton, & J. D. Bancroft (eds.); 8th ed.). Elsevier Ltd.
- Szydłowski, P., Madej, J. P., & Mazurkiewicz-Kania, M. 2017. Histology and ultrastructure of the integumental chromatophores in tokay gecko (Gekko gekko) (Linnaeus, 1758) skin. *Zoomorphology*, 136(2), 233–240. <https://doi.org/10.1007/s00435-017-0348-9>
- Vitt, L. J., & Caldwell, J. P. 2014. Herpetology. In *Herpetology*. <https://doi.org/10.1016/B978-0-12-386919-7.00005-8>
- Yagami, K., Suh, J. Y., Enomoto-Iwamoto, M., Koyama, E., Abrams, W. R., Shapiro, I. M., Pacifici, M., & Iwamoto, M. 1999. Matrix GLA protein is a developmental regulator of chondrocyte mineralization and, when constitutively expressed, blocks endochondral and intramembranous ossification in the limb. *Journal of Cell Biology*, 147(5), 1097–1108. <https://doi.org/10.1083/jcb.147.5.1097>
- Yao, Y., Jumabay, M., Ly, A., Radparvar, M., Cubberly, M. R., & Boström, K. I. 2013. A role for the endothelium in vascular calcification. *Circulation Research*, 113(5), 495–504. <https://doi.org/10.1161/CIRCRESAHA.113.301792>
- Yao, Y., Shahbazian, A., & Boström, K. I. 2008. Proline and γ-carboxylated glutamate residues in matrix Gla protein are critical for binding of bone morphogenetic protein-4. *Circulation Research*, 102(9), 1065–1074. <https://doi.org/10.1161/CIRCRESAHA.107.166124>
- Zebboudj, A. F., Imura, M., & Boström, K. 2002. Matrix GLA protein, a regulatory protein for bone morphogenetic protein-2. *Journal of Biological Chemistry*,

277(6), 4388–4394. <https://doi.org/10.1074/jbc.M109683200>

Zhang, P. 2012. Alcian Blue – Alizarin Red Staining of Mouse Skeleton. *Bio-Protocol*, 2(8), e162. <https://doi.org/10.21769/BioProtoc.162>

Zoch, M. L., Clemens, T. L., & Riddle, R. C. 2016. New insights into the biology of osteocalcin. *Bone*, 82, 42–49. <https://doi.org/10.1016/j.bone.2015.05.046>

Zuscik, M. J., Hilton, M. J., Zhang, X., Chen, D., & O’Keefe, R. J. 2008. Regulation of chondrogenesis and chondrocyte differentiation by stress. *Journal of Clinical Investigation*, 118(2), 429–438. <https://doi.org/10.1172/JCI34174>