



DAFTAR PUSTAKA

- Adams, G. (2020). A beginner's guide to RT-PCR, qPCR and RT-qPCR. *The Biochemist*, 42(3), 48–53.
- Alam, M. H., Lee, J., Miyano, T., & Fukui, Y. (2018). Oocyte-secreted factors GDF9 and BMP15 maintain the function of bovine granulosa cells and promote formation of antral follicle-like structures in vitro. *Journal of Reproduction and Development*, 64(3), 223–230.
- Andreone, L., Velásquez, E. V., Abramovich, D., Ambao, V., Loreti, N., Croxatto, H. B., Parborell, F., Tesone, M., & Campo, S. (2010). Regulation of inhibin/activin expression in rat early antral follicles. *Reproductive Biology and Endocrinology*, 8, 68.
- Arias Farias, M., Bordignon, V., & Tesone, M. (2023). Regulation of folliculogenesis: Molecular mechanisms and endocrine control. *Theriogenology*, 199, 130–140.
- Bao, Y., Yao, X., Li, X., El-Samahy, M. A., Yang, H., Liang, Y., Liu, Z., & Wang, F. (2022). INHBA transfection regulates proliferation, apoptosis and hormone synthesis in sheep granulosa cells. *Theriogenology*, 191, 116–126.
- Bekuma, A., & Ketema, H. (2019). Estrus synchronization in Ethiopian dairy cattle: Principle, purpose and influencing factors. *Journal of Animal Husbandry Science & Technology*.
- Buitrago, J. M. (2021). Reproductive management of dairy cattle: Anatomy of reproductive tract and estrous cycle of cow. New Mexico State University.
- Campos, L. B., Silva, A. M., Praxedes, E. C. G., Bezerra, L. G. P., Freitas, J. L. S., Melo, L. M., Pereira, A. F., Figueiredo, J. R., & Silva, A. R. (2021). Effect of growth differentiation factor 9 (GDF-9) on in vitro development of collared peccary preantral follicles in ovarian tissues. *Animal Reproduction Science*, 226, 106717.
- Cavalcante, A. Y. P., Gouveia, B. B., Barberino, R. S., Lins, T. L. B. G., Santos, L. P., Gonçalves, R. J. S., Celestino, J. J. H., & Matos, M. H. T. (2015). Kit ligand promotes the transition from primordial to primary follicles after in vitro culture of ovine ovarian tissue. *Zygote*, 24(5), 1–5.
- Cook-Andersen, H., Curnow, K. J., Su, H. I., Chang, R. J., & Shimasaki, S. (2016). Growth and differentiation factor 9 promotes oocyte growth at the primary



- but not the early secondary stage in three-dimensional follicle culture. *Journal of Assisted Reproduction and Genetics*, 33(8), 1067–1077.
- Dissanayake, D. M. A. B., Matsumoto, H., & Kawashima, C. (2021). Role of KIT ligand and its receptor in ovarian follicular development and oocyte growth in mammals. *The Journal of Reproduction and Development*, 67(5), 289–296.
- Ferré, P., Labrecque, R., Blondin, P., & Sirard, M. A. (2022). Steroidogenic enzyme expression in cumulus cells is associated with oocyte quality indicators in cattle. *Animals*, 12(15), 1911.
- Ferré, P., Combrisson, C., Fabre, S., & Monniaux, D. (2022). Regulation of CYP19A1 expression and aromatase activity in granulosa cells of mammalian ovaries. *Molecular and Cellular Endocrinology*, 550, 111636.
- Gao, Y., Zhou, L., Liu, H., Wu, M., Chen, Y., & Liu, G. (2020). Silencing of CYP19A1 inhibits proliferation and hormone secretion of buffalo granulosa cells. *Animals*, 10(10), 1756.
- Gilchrist, R. B., Lane, M., & Thompson, J. G. (2008). Oocyte-secreted factors: Regulators of cumulus cell function and oocyte quality. *Human Reproduction Update*, 14(2), 159–177.
- Gupta, S. D., Dhar, B., Kundu, S., Das, N., Choudhury, A. P., Deb, M., Das, A., Das, A., Das, N., Choudhury, B., Varghese, A. C., Kar, K. K., Choudhury, Y., & Ghosh, S. K. (2021). Association between gene expression levels of GDF9 and BMP15 and clinicopathological factors in the prognosis of female infertility in northeast Indian populations. *Meta Gene*.
- Hatler, T. B., Hayes, S. H., & Laranja da Fonseca, L. F. (2020). Mechanisms of follicular atresia: Apoptosis and granulosa cell degeneration in cattle. *Theriogenology*, 155, 179–187.
- Hayanti, S. Y., Widyaningrum, Y., & Purba, H. H. S. (2021). Interpretasi tingkat kejadian dan gejala klinis hipofungsi ovaria pada induk sapi potong di Provinsi Jambi. *Conference of Applied Animal Science Proceeding*. Series, 2.
- Hermadi, H. A., Hariadi, M., & Susilowati, S. (2017). The ovarian hypofunction: A case in cow management therapy. *Advances in Health Sciences Research*.
- Hidayah, A. S. A., Utomo, B., & Mustofa, I. (2021). Profil gen reseptor follicle stimulating hormone (rFSH) pada sapi silangan Madrasin. *Jurnal Medika Veteriner*, 4(1), 91–97.



- Hosoe, M., Kaneyama, K., Ushizawa, K., Hayashi, K., & Takahashi, T. (2011). Quantitative analysis of bone morphogenetic protein 15 (BMP15) and growth differentiation factor 9 (GDF9) gene expression in calf and adult bovine ovaries. *Reproductive Biology and Endocrinology*, 9, Article 33.
- Juengel, J. L., & McNatty, K. P. (2020). The role of oocyte-secreted factors in mammalian ovarian follicular development. *Reproduction, Fertility and Development*, 32(5), 351–359.
- Jurame, S., Sritiasni, & Womsiwor, I. (2018). Kemampuan peternak dalam mendeteksi berahi (estrus) pada sapi Bali, mendukung pelaksanaan inseminasi buatan (IB) di Kampung Mantedi Distrik Masni Kabupaten Manokwari Provinsi Papua Barat. *Jurnal Triton*, 9(1).
- Kacar, C., & Yilmaz, O. (2022). Hormonal control of follicular development in dairy cows: A review. *Veterinary Journal of Reproduction and Artificial Insemination*, 58(2), 93–101.
- Knight, P. G., & Glister, C. (2006). TGF- β superfamily members and ovarian follicle development. *Reproduction*, 132(2), 191–206.
- Li, Y., Chen, L., Zhang, X., & Zhang, Y. (2021). Role of BAK1 in ovarian apoptosis and reproductive aging. *Reproductive Biology and Endocrinology*, 19, 34.
- Lin, Z. L., Li, Y. H., Xu, Y. N., Wang, Q. L., Namgoong, S., Cui, X. S., *et al.*, (2013). Effects of growth differentiation factor 9 and bone morphogenetic protein 15 on the in vitro maturation of porcine oocytes. *Reproduction in Domestic Animals*, 49(2), 219–227.
- Maisha, R. (2019). The impact of nutritional deficiencies on ovarian hypofunction in postpartum cows. *Journal of Animal Reproduction*, 12(4), 345–352.
- Mikhalev, V., Safonov, V., Shabunin, S., Parshin, P., Sineva, A., & Lukina, V. (2022). Ovarian hypofunction and its relationship to serum hormonal and cytokine profile in cattle. *Advances in Animal and Veterinary Sciences*, 10(1), 20–26.
- Mueller, M. L., & Van Eenennaam, A. L. (2022). Synergistic power of genomic selection, assisted reproductive technologies, and gene editing to drive genetic improvement of cattle. *CABI Agriculture and Bioscience*, 1–29.
- Notaro, U. S., Huber, E., Stassi, A. F., Ormaechea, N. E., Chiaraviglio, J. A., Baravalle, M. E., Ortega, H. H., Rey, F., & Salvetti, N. R. (2017). Changes in the proliferation/apoptosis balance in the bovine ovary: A key early event in follicular persistence. **Cells Tissues Organs**, *204*(5–6), 314–327.



- Orisaka, M., Orisaka, S., Jiang, J. Y., Craig, J., Wang, Y., Kotsuji, F., *et al.*, (2006). Growth differentiation factor-9 is anti-apoptotic during follicular development from preantral to early antral stage. *Molecular Endocrinology*, 20(10), 2456–2468.
- O'Connor, M., Sineva, A., Lukina, V., & Parshin, P. (2019). Ovarian hypofunction and its relationship to serum hormonal and cytokine profile in cattle. *Veterinary World*, 12(3), 784–787.
- Ortega, H. H., Palomar, M. M., Acosta, J. C., Salvetti, N. R., Dallard, B. E., Lorente, J. A., Barbeito, C. G., & Gimeno, E. J. (2008). Insulin-like growth factor I in sera, ovarian follicles and follicular fluid of cows with spontaneous or induced cystic ovarian disease. *Research in Veterinary Science*, 84(3), 419–427.
- Pakdel, F., Moulin, A., Petit, F. G., Le Fol, V., & Fabre, S. (2022). Estradiol signaling at the heart of folliculogenesis: Its role in follicle selection, oocyte maturation and ovulation. *Cells*, 11(3), 456.
- Panwar, R., Kaur, H., De, S., Priya, P., Kaur, T., & Singh, G. (2023). Cross Talk between KGF and KITLG Proteins Implicated with Ovarian Folliculogenesis in Buffalo *Bubalus bubalis*. *International Journal of Molecular Sciences*, 25(6), 5551.
- Prata, A. B., Fernandes, C. A. C., Oliveira, M. E. F., & Simões, R. S. (2021). Ovarian function and morphological changes associated with estrous disorders in dairy cows. *Animal Reproduction Science*, 229, 106748.
- Qin, Y., Tang, T., Li, W., Liu, Z., Yang, X., Shi, X., Sun, G., Liu, X., Wang, M., Liang, X., Cong, P., Mo, D., Liu, X., Chen, Y., & He, Z. (2019). Bone morphogenetic protein 15 knockdown inhibits porcine ovarian follicular development and ovulation. *Frontiers in Cell and Developmental Biology*, 7, 286.
- Rasby, R., & Deutcher, G. (2013). Synchronizing estrus in beef cattle. University of Nebraska-Lincoln.
- Regan, S. L. P., Knight, P. G., Yovich, J. L., Leung, Y., Arfuso, F., & Dharmarajan, A. (2018). Granulosa cell apoptosis in the ovarian follicle—a changing view. *Frontiers in Endocrinology*, 9, Article 61.
- Reith, S., & Hoy, S. (2018). Review: Behavioral signs of estrus and the potential of fully automated systems for detection of estrus in dairy cattle. *Animal*.



- Rosadi, B., Sumarsono, T., & Hoesni, F. (2018). Identifikasi gangguan reproduksi pada ovarium sapi potong yang mengalami anestrus postpartum panjang. *Jurnal Veteriner*, 9(3), 385–389.
- Roth, Z. (2017). Physiology and cellular mechanisms of reduced fertility during heat stress: Importance of the follicular environment. *Animal Frontiers*, 7(1), 28–35.
- Salman, A., Surya, A. P., & Bambang, S. (2021). Reproductive performance of beef cattle with ovarian hypofunction and repeat breeding in Jepara Regency, Central Java, Indonesia. *Veterinary World*, 14(3), 784–787.
- Sammad, A., Luo, H., Hu, L., Zhu, H., & Wang, Y. (2022). Transcriptome reveals granulosa cells coping through redox, inflammatory and metabolic mechanisms under acute heat stress. *International Journal of Molecular Sciences*, 23(10), 5523.
- Sanfins, A., Rodrigues, P., & Albertini, D. F. (2023). GDF-9 and BMP-15 direct the follicle symphony. *Journal of Assisted Reproduction and Genetics*, 40(3), 699–707.
- Simpson, E. R., Mahendroo, M. S., Means, G. D., Kilgore, M. W., Hinshelwood, M. M., Graham-Lorence, S., ... & Bulun, S. E. (2002). Aromatase cytochrome P450, the enzyme responsible for estrogen biosynthesis. *Endocrine Reviews*, 15(3), 342–355.
- Spicer, L. J., & Aad, P. Y. (2015). Insulin-like growth factor-1 regulates the expression of luteinizing hormone receptor and steroid production in bovine granulosa cells. *Biology of Reproduction*, 92(3), 58.
- Su, Y.-Q., Wu, X., O'Brien, M. J., Pendola, F. L., Denegre, J. N., Matzuk, M. M., & Eppig, J. J. (2008). Synergistic roles of BMP15 and GDF9 in the regulation of murine oocyte development and female fertility. *Developmental Biology*, 316(2), 493–507.
- Valdez, K. E., Cuneo, S. P., & Turzillo, A. M. (2005). Regulation of apoptosis in the atresia of dominant bovine follicles of the first follicular wave following ovulation. *Reproduction*, 130(1), 71–81.
- Wang, Y., Liu, X., Xu, L., Liu, Y., Liu, W., Lu, H., & Liu, K. (2023). The combination of P4 and FSH promotes the formation of small antral follicles by up-regulating FSHR and CYP19A1 in Hu sheep at the late luteal phase. *Theriogenology*, 204, 111328.



- Wang, Y., Liu, H., Liu, Y., Zhang, M., & Li, X. (2023). Expression pattern and functional analysis of INHBA gene in the ovary of dairy cows with reproductive disorders. *BMC Genomics*, 24, 112.
- Yufeng, Q., *et al.*, (2019). Bone morphogenetic protein 15 knockdown inhibits porcine ovarian follicular development and ovulation. *Frontiers in Cell and Developmental Biology*, 7, 286.
- Yusuf, M., *et al.*, (2019). The incidence of reproductive disorders in dairy cows under smallholder farms. *Hasanuddin Journal of Animal Science*, 1(2), 22–27.
- Zhang, X., Yue, Y., Wang, X., Xu, Z., & Liu, G. (2021). Effect of INHBA transfection on proliferation, apoptosis, and hormone synthesis in sheep granulosa cells. *Animal Reproduction Science*, 231, 106755.
- Zhao, H., Li, R., Lv, Y., Wang, H., & Wang, W. (2020). Role of IGF-1 in follicular development and oocyte maturation. *Reproductive Biology and Endocrinology*, 18, 112.
- Zhou, Z., Liu, X., Gao, J., Ma, L., & Han, H. (2022). Exploration of the role of INHBA in Hu sheep granulosa cells using RNA-Seq. *Animal Reproduction Science*, 243, 107054.