

DAFTAR PUSTAKA

- Ahmed, M., Daoud, G.H., Mohamed, A., 2021. New insights into the therapeutic application of CRISPR/Cas9 genome editing in breast cancer. *Genes*. 12(723): 1-27.
- Ali, A., Ali, A., Ahmad, S. 2021. Alteration of glutathione and GSTM1 mutation induce tumor metastasis and invasion via EMT pathway in breast cancer patiens. *EJMO*. 5(3): 249-259.
- Amorotti, G.F., Chiodoni, C., Shen, F., Cattelani, S., Soliera, A.R., Manzotti, G., *et al.* 2014. Suppression of invasion and metastasis of triple negative breast cancer lines by pharmacological or genetics inhibiton of slug activity. *Neoplasia*. 16(12):1047-1058.
- Arribere, J.A., Bell, R.T., Fu, B.X.H., Artiles, K.L., Hartman, P.H. 2014. Efficient marker free recovery of custom genetic modification with CRISPR/Cas9 in *Caenorhabditis elegans*. *Genetics*. 198(3):837-846.
- Banarjee, A., Malonia, S.K., Dutta, S. Frontiers of CRISPR-Cas9 for cancer research and therapy. 2021. *J. Explor.Res.Pharmacol.* 00(00):1-9.
- Berggren, S., Enoksson, I., Stens, E. 2020. The CRISPR/Cas9 system. *Thesis*. Swedia. Linköping University.
- Bhattacharjee, P., Paul, S., Banarjee, M., Parta, D., Banarjee, P., Ghoshal, N., *et al.* 2013. Functional compensation of Glutathione S-Transferase M1 (GSTM1) null by another GST superfamily member, GSTM2. *Scientific Reports*. 3(2704): 1-6.
- Bhattacharya, D and Meir, E.G. 2019. A simple genotyping method to detect small CRISPR-Cas9 induce indels by agarose gel electrophoresis. *Scientific Reports*. 9(4437):1-7.
- Buglo, E., Sarmianto, E., Martuscelli, N.B., Sant, D.W., Danzi, M.C., Abrams, A.J., *et al.* 2020. Genetic compensation in a stable slc25a46 mutant zebrafish: A case for using F0 CRISPR mutagenesis to study phenotypes caused by inherited disease. *PLOSE ONE*. 15(3): 1-19.
- Caesar, S.A., Rajan, V., Prykhodzhiij, S.V., Berman, J.N., Ignacimuthu, S. 2016. Insert, remove or replace: a highly advanced genome editing sytem using CRISPR/Cas9. *Biochimica et Biophysica Acta*: 2333-2344.
- Chuai, G., Ma, H., Yang, J., Chen, M., Hong, N., Xue, D., *et al.* 2018. DeepCRISPR: Optimize CRISPR guide RNA design by deep learning. *Genome Biology*: 2-18.
- Daniyal, A., Santoso, I., Gunawan, N.H.P., Barliana, M.I., Abdullah, R. 2021. Genetic influences in breast cancer drug resistance. *Breast Cancer: Targets and Therapy*. 13:59-85.
- Doench, J.G., Hartenian, E., Graham, D.B., Tothova, Z., Hedge, M., Smith, I., *et al.* 2014. Rational design of highly active sgRNA for CRISPR/cas9 mediated gene inactivation. *Nature Biotechnology*: 1-5.
- Doetschman, T & Georgieva, T. 2017. Gene editing with CRISPR/Cas9 RNA-Directed Nuclease. *Circulation Research*: 891-894.
- El-Brolosy, M.A dan Stanies, D.Y.R. 2017. Genetic compensation: a phenomenon in

- search mechanism. *PLOS Genetics*: 1-17.
- El-Brolosy, M.A., Kontarakis, Z., Rossi, A., Kuenne, C., Gunther, S., Fukuda, N., *et al.* 2019. Genetic compensation triggered by mutant mRNA degradation. *Nature*. 568 (7751): 193-197.
- Famta, P., Shah, S., Chatterjee, E., Singh, H., Dey, B., Guru, S.K., *et al.* 2021. Exploring new horizons in overcoming P-glycoprotein mediated multidrug resistant breast cancer via nanoscale drug delivery platform. *Current Research in Pharmacology and Drug Discovery*. 2:2-22.
- Founier, M.V., Goodwin, E.C., Chen, J., Obenaure, J.C., Tannenbaum, S.H., and Brufsky, A.M. 2019. A predictor of pathological complete response to neoadjuvant chemotherapy stratifies triple negative breast cancer patients with high risk of recurrence. *Scientific Reports*. 4-8.
- Fu, S., Chen, X., Lo, H.W., Lin, J. 2019. Combined bazedoxifene and paclitaxel treatments inhibit cell viability, cell migration, colony formation, and tumor growth and induce apoptosis in breast cancer. *Cancer Letters*. 448:11-19.
- Fu, Y., Sander, J.D., Reyon, D., Cascio, V.M., Joung, J.K. 2014. Improving CRISPR-Cas nuclease specificity using truncated guide RNAs. *Nat Biotechnol*. 32: 279-284.
- Furlanetto, J & Loibl, S. 2020. Optimal systemic treatment for early triple negative breast cancer. *Breast Care*. 15:217-226.
- Garcia, C.M.de.S., de Araujo, M.R., Lopes, M.T.P., Ferreira, M.A.N.D., Cassali, G.D. 2014. Morphological and immunophenotypical characterization of murine mammary carcinoma 4T1. *Brzilian Journal of Veterinary Pathology*. 7(3):158-165.
- Gote, V., Nookala, A.R., Bolla, P.K., Pal, D. 2021. Drug resistance in metastatic breast cancer: tumor targeted nanomedicine to the rescue. *Int.J.Mol.Sci*. 22: 2-41.
- Graf, R., Li, Z., Chu, V.T., Rajewsky, K. 2019. sgRNA sequences motifs blocking efficient CRISPR/Cas9 mediated gene editing. *Cell Reports*. 26:1098-1103.
- Ha, J.S., Byun, J., Ahn, D.R. 2016. Overcoming doxorubicin resistance of cancer cells by Cas9-mediated gene disruption. *Scientific Reports*. 6: 2-7.
- Hassan, M., Watari, H., AbuAlmaaty, A., Ohba, Y., Sakuragi, N. 2020. Apoptosis and molecular targeting therapy in cancer. *Biomed Research International*. 2-24.
- Hazafa, A., Mumtaz, M., Farooq, M.F., Bilal, S., Chaudry, S.N., Firdous, M., *et al.* 2020. CRISPR/Cas9: a powerful genome editing technique for the treatment of cancer cells with present challenges and future direction. *Life Sciences*. 263:1-14.
- He, Z., Proudfoot, C., Milehan, A.J., McLaren, D., Whitelaw, C.B.A., Lilico, S.G. 2015. Highly efficient targeted chromosome deletions using CRISPR/Cas9. *Biotechnology and Bioengineering*. 112(5):1061-1064.
- Hollman, A.L., Tchounwou, P.B., Huang, H.C. 2016. The association between gene-environment interactions and disease involving the human GST superfamily with SNP variants. *Int. J. Environ. Res. Public Health*. 13(379):1-14.
- Hwang, S.H., Yeom, H., Lee, M. 2020. ATG5 knockout promotes paclitaxel sensitivity

- in drug resistant cells via induction of necrotic cell death. *Korean J Physiol Pharmacol.* 24(3): 233-240.
- Issakova, S.J. 2010. Triple negative breast cancer: role of specific chemotherapy. *Cancer J.* 16(1):53-61.
- Jiang, F & Doudna, J.A. 2017. CRISPR-Cas9 structures and mechanism. *The Annual of Review Biophysic:* 505-529.
- Joberty, G., Savitski, M.F., Paulmann, M., Bosche, M., Doce, C., Cheng, A., *et al.* 2020. A tandem guide RNA based strategy for efficient gene editing of cell population with low heterogeneity of edited alleles. *The CRISPR Journal.* 3(2): 123-134.
- Kalacas, N.A., Garcia, J.A., Ortin, T.S., Valdez, A.Jr., Fellizar, A., Ramos, M.C., *et al.* 2020. GSTM1 and GSTT1 genetic polymorphism and breast cancer risk in selected Filipino cases. *Asian Pac J Cancer Prev.* 20(2):529-535.
- Kampan, N.C., Madonso, M.T., McNally, O.M., Quinn, M., Plebanski, M. 2015. Paclitaxel and its evolving role in management of ovarian cancer. *Biomed Research International.* 2-23.
- Kapahnke, M., Banning, A., Tikkanen, R. 2016. Rnadam splicing of several exons caused by a single base change in the target exon of CRISPR/Cas9 mediated gene knockout. *Cells.* 5(45):2-12.
- Khalidah, A.R. 2020. Mekanisme resistensi kemoterapi berbasis platinum. *Jurnal Kesehatan.* 11(1):151-157.
- Kiani, S., Chavez, A., Tuttle, M., Hall, R.N., Chari, R., Ter-Ovanesyen, D., *et al.* 2015. Cas gRNA engineering for genome editing, activation, and repression. *Nat Methods.* 12(11):1051-1054.
- Kim, B.H dan Zhang, G.J. 2020. Generating stable knockout Zebrafish lines by deleting large chromosome fragments using multiple gRNA. *Genes Genome Genetics.* 10: 1029-1037.
- Korge, S., Grudziecki, A., dan Kramaer, A. 2015. Highly efficient genome editing via CRISPR/Cas9 to create clock gene knockout cells. *Journal of Biological Ryhtms.* 30 (5):389-395.
- Kuleape, J.A., Tagoe, E.A., Puplampu, P., Bonney, E.Y., Quaye, O. 2018. Homozygous deletion of both GSTM1 and GSTT1 genes is associated with higher CD4+ T cell counts in Ghanian HIV Patient. *PLOSE ONE.* 2-10.
- Labert, J.M., Lester, R., Powell, E., Seal, M., McCarthy, J. 2018. Advances in the systemic treatment of triple negative breast cancer. *Current Oncology.* 25:S142-S150.
- Lee, A. 2019. Gluthatione S-transferases (GSTs) polymorphism and taxane (docetaxel) sensitivity in breast cancer. *Translational Cancer Resarch.* 8(4):1016-1018.
- Li, G., Xu, D., Sun, J., Zhao, S., Zheng, D. 2020. Paclitaxel inhibits proliferation and invasion and promotes apoptosis of breast cancer cells by blocking activation of the P13K/AKT signaling pathway. *Adv. Clin. Exp. Med.* 29(11):1337-1345.
- Li, J., Hu, L., Zhou, T., Gong, X., Jiang, R., Li, H., *et al.* 2019. Taxifolin inhibits breast cancer cells proliferation, migration, and invasion by promoting mesenchymal to

- epithelial transition via β -catenin. *Life Sciences*. 232:1-11.
- Li, K., Wang, G., Andersen, T., Zhou, P., Pu, W.T. 2014. Optimization of genome engineering approaches with the CRISPR/Cas9 system. *PLOS ONE*. 9: 1-10.
- Li, S., Lang, G.T., Zhang, Y.Z., Yu, K.D., Shao, Z.M., and Zhang, Q. 2018. Interaction between glutathione S-transferase M1-null/present polymorphism and adjuvant chemotherapy survival of breast cancer. *Cancer Medicine*. 7:4202-4207.
- Ma, Z., Zhu, P., Shi, H., Guo, L., Zhang, Q., Chen, Y., et al. 2019. PTC bearing mRNA elicits a genetic compensation response via Upf3a and COMPASS components. *Nature*. 568: 259-263.
- MacQueen, A.J., Bagget, J.J., Perumor, N., Bauer, R.A., Januszewski, T., Schriefer, L., et al. 2005. Act 5 is an essential *Caenorhabditis elegans* actin required for intestinal microvilli formation. *Molecular Biology of the cell*. 16:3247-3259.
- McIlwain, C.C., Townsend, D.M., Tew, K.D. 2006. Glutathione S-Transferase polymorphism: cancer incidence and therapy. *Oncogene*. 25:1639-1648.
- Mehanna, J., Haddad, F.G.H., Eid, R., Lambertini, M., Kourie, H.R. 2019. Triple negative breast cancer: current perspective on the evolving therapeutic landscape. *International Journal of Women's Health*. 11:431-437.
- Miao, L.F., Ye, X.H., He, X.F. 2020. Individual and combined effect of GSTM1, GSTT1, and GSTP1 polymorphism on breast cancer risk: a meta-analysis and re-analysis of systematic meta analysis. *PLOS ONE*:1-34.
- Mintz, R.L., Lao, Y.H., Chi, C.W., He, S., Li, M., Quek, C.H., et al. 2019. CRISPR/Cas9-mediated mutagenesis to validate the synergy between PARP1 inhibition and chemotherapy in BRCA1-mutated breast cancer. *Bioeng Transl Med*. 5:1-8.
- Mou, H., Smith, J.L., Peng, L., Moore, J., Zhang, X.O., Song, C.Q., et al. 2017. CRISPR/Cas9 mediated genome editing induces exon skipping by alternative splicing or exon deletion. *Genome Biology*. 18(108): 2-8.
- Naeem, M., Majeed, S., Hoque, M.Z., Ahmad, I. 2020. Latest developed strategies to minimize the off-target effects in CRISPR-Cas9-mediated genome editing. *Cells*. 9:1-23.
- Oudin, M.J., Barbier, L., Schafer, C., Kosciuk, T., Miller, M.A., Han, S., et al. 2016. MENA confers resistance to paclitaxel in triple negative breast cancer. *Mol Cancer Ther*. 16(1):143-155.
- Paix, A., Folkmann, A., Rasoloson, D., Seydoux, G. 2015. High Efficiency, Homology Directed Genom Editing in *Caenorhabditis elegans* using CRISPR-Cas9 Ribonucleoprotein complex. *Genetics*. 201:47-54.
- Rajagopal, T., Seshachalam, A., Rathnam, K.K., Jothi, A., Talluri, S., Venkatabalasubramanian, S., et al. 2021. Impact of xenobiotic-metabolizing gene polymorphism on breast cancer risk in South Indian women. *Breast Cancer Research and Treatment*. 186:823-837.
- Ran, F.A., Hsu, P.D., Wright, J., Agarwala, V., Scott, D.A., and Zhang, F. 2013. Genome engineering using the CRISPR screening. *NAT methods*: 343:84-87.
- Rodriguez, A.R., Lam, A.C., Morozov, V.M., Ishov, A.M., Rinaldi, C. 2018. Magnetic

- nanoparticle hyperthermia potentiates paclitaxel activity in sensitive and resistant breast cancer cells. *International Journal of Nanomedicine*. 13:4771-4779.
- Schrörs, B., Boegel, S., Albercht, C., Bukur, T., Bukur, V., Holtsträter, C., *et al.* 2020. Multi-omics characterization of the 4T1 murine mammary gland tumor model. *Frontiers In Oncology*. 10:1-14.
- Ściskalka, M & Milnerowicz, H. 2020. The role of GST π isoform in the cells signaling an anticancer therapy. *European Review For Medical And Pharmacological Sciences*. 24:8537-8550.
- Sharpe, J.J and Cooper, T.A. 2017. Unexpected consequences: exon skipping cause dy CRISPR-generated mutations. *BioMed Central*. 18(109):2-4
- She, J., Wu, Y., Lou, B., Lodd, E., Klems, A., Schmoehl, F.2019. Genetic compensation by epod in pronephros development in epoa mutant zebrafish. *Cell Cycle*. 18: 2683-96.
- Shi, Y., Yu, Y., Wang, Z., Wang, H., Biekerhazhi, S., Zhao, Y., *et al.* 2016. Second generation proteasome inhibitor carfilzomib enhances doxorubin induced cytotoxicity and apoptosis in breast cancer cells. *Oncotarget*. 7(45): 73697-73710.
- Siegel, R.L., Miller, K.D., Fuchs, H.E., Jemal, A. 2021. *Cancer statistics*. *Ca Cancer J Clin*. 71(1):7-33.
- Singh, S. 2015. Cytoprotective and regulatory functions of glutathione S-transferase in cancer cell proliferation and cell death. *Cancer Chemother Pharmacol*. 75(1): 1-15.
- Singh, R.R & Reindl, K.M. 2021. Glutathione S-transferase in cancer. *Antioxidants*. 10:1-25. Polyacrylamide gel electrophoresis. *Electrophoresis*. 39(19):2454-2459.
- Smith, A.S., Wang, Y., Morissey, J.H. 2018. DNA ladders can be used to size polyphosphate resolved by
- Song, Z., Shao, C., Feng, C., Lu, Y., Gao, Y., and Dong, C. 2016. Association of glutathione S-transferase T1, M1, and P1 polymorphism in the breast cancer risk: a meta-analysis. *Therapeutics and Clinical Risk Management*. 12:763-769.
- Sporikova, Z., Koudelakova, V., Trojanec, R., Hajduch, M. 2018. Genetics markers in triple negative breast cancer. *Clinical Breast Cancer*. 18(5):e841-e850.
- Strover, D.G., Bell, C.F., Tolaney, S.M. 2016. Neoadjuvant and adjuvant chemotherapy consideration for triple negative breast cancer. *The American Journal of Hematology/Oncology*. 12(3): 2-12.
- Sun, L., Li, Z., Shang, H., Xin, X. 2021. Hypericin enhances paclitaxel induced B16-F10 cell apoptosis by activating a cytochrome c release dependent pathway. *Frontiers in Pharmacology*. 12:2-10.
- Sztalmachova, M., Gumulec, J., Raudenska, M., Polanska, H., Holubova, M., Balvan, J., *et al.* 2015. Molecular response of 4T1-induced mouse mammary tumours and healthy tissues to zinc treatment. *International Journal of Oncology*. 46:1810-1818.

- Tew, K.D dan Townsend, D.M. 2012. Gluthatione S-Transferase as determinats of cell survival and death. *Antioxidant and Redox Signaling*. 17(12):1728-1737.
- Thompson, M.L., Kunkel, E.J., Ehrhardt, R.O. 2014. Cryopersevation and thawing of mammalian cells. *Advances Article*. 1-7.
- Varan, G., Varan, C., Ozturk, S.C., Benito, J.M., Esedagli, G., dan Bilensoy. 2021. Therapeutic efficacy and biodistribution of paclitaxel-bound amphilic cyclodextrin nanoparticles: analyses in 3D tumor culture and tumor-bearing animals in vivo. *Nanomaterials*. 11:2-17.
- Vartak, S.V and Raghavan, S.C. 2015. Inhibition on non homologus end joining to increase the specifity CRISPR/Cas9 genome editing. *FEBS Journal*. 4289-4294.
- Velloso, F.J., Bianco, A.FR., Farias, J.O., Torres, N.EC., Ferruzo, P.YM., Anschau, V., *et al*. 2017. The crossroads of breast cancer progression: insights into the modulation of major signaling pathways. *OncoTagets and Theraphy*. 10:5491-5524.
- Wang, S., Yang, H., Tong, F., Zhang, J., Yang, D., Liu, H., *et al*. 2009. Response to neoadjuvant therapy and disease free survival in patients with triple negative breast cancer. *Gan To Kagaku Ryoho*. 36(2):255-258.
- Wang, T., Wei, J.J., Sabatini, D.M., Lander, E.S. 2014. Genetic screen in humans cell using the CRISPR/Cas9 system. *Sciences*. 343 (6166):80-84
- Wong, N., Liu, W., Wang, X. 2015. WU-CRISPR: Characteristics of functionan guide RNAs for the CRISPR/Cas9 system. *Genome Biology*: 2-8.
- Wu, C.L., Liu, J.F., Liu, Y., Wang, Y.X., Fu, K.F., Yu, X.J., *et al*. 2019. Beclin1 inhibition enhances paclitazel-mediated cytotoxicity in breast cancer in vitro and in vivo. *International Journal of Molecular Medicine*. 43:1866-1878.
- X, Zhang., J, Zhou., B, Zheng., Z, He., Z, Huang. 2017. RAF-MEK-MAPK pathway targeted by tumor suppressor therapeutic agents. *Journal of Molecular and Genetic Medicine*. 11:2-5.
- Xu, F., Wang, F., Yang,T., Sheng, Y., Zhong, T., Chen, Y. 2014. Differential drug resistance acguisition to doxorubicin and paclitaxel in breast cancer cells. *Cancer Cell International*. 14(142):2-13.
- Xu, H., Xiao, T., Chen, C.H., Li, W., Meyer, C.A., Wu, Q., *et al*. 2022. Sequence determinants of improved CRISPR sgRNA design. *Genome Research*. 25:1147-1157.
- Yang, H., Wang, H., Jaenisch, R. 2014. Generating genetically modified mice using CRISPR/Cas-mediated genome engineering. *Nature Protocols*. 9(8):1956-1968.
- Zhu, L & Chen, L. 2019. Progress in research on paclitaxel and tumor immunotherapy. *Cellular & Molecular Biology Letters*. 24(40):1-11.
- Zundo, G. 2021. Genetic compensation in knockout: a review and evaluation of current modes explaining discrepancies in loss of function studies.
- Zuo, E., Cai, Y.J., Li, K., Wei, Y., Wang, B.A., Liu, Z., *et al*. 2017. One step generation of complete gene knockout mice and monkeys by CRISPR /Cas9 -mediated gene editing with multiple sgRNA. *Cell Research*. 934-945.