

DAFTAR PUSTAKA

- Acs, B., Malmström, A., Sjöström, M., Lidbrink, E., Agin, M., Hartman, J. 2024. Real-World Overall Survival and Characteristics of Patients with ER-Zero and ER-Low HER2-Negative Breast Cancer Treated As Triple-Negative Breast Cancer: A Swedish Population-Based Cohort Study. *The Lancet Regional Health – Europe*. 40: 100886.
- Allison, K. H., Hammond, M. E. H., Dowsett, M., McKernin, S. E., Carey, L. A., Fitzgibbons, P. L., *et al* . 2020. Estrogen and progesterone receptor testing in breast cancer: ASCO/CAP guideline update. *Journal of Clinical Oncology*. 38(12): 1346–1366.
- Anna Bethania, K., & Rustamadji, P. 2022. Hubungan Subtipe Molekular pada Karsinoma Payudara Invasif Hubungan Subtipe Molekular pada Karsinoma Payudara Invasif dengan Grade, Invasi Limfovaskular dan Metastasis KGB di Departemen Patologi Anatomi FKUI/RSCM Tahun 2019. *Maj Patol Indones*. 31(1): 392–399.
- Arianto, A., Putri, D.A., Wijaya, R. 2024. *Profil Klinikopatologis Pasien Carcinoma mammae di Indonesia*. Jurnal Onkologi Indonesia. 16(1): 45–53.
- Arida, N. F., Ningrom, I., Purbowati, M. R., & Widodo, O. S. Y. 2024. Hubungan Subtipe *Carsinoma mammae* Berdasarkan Histopatologi dan Ekspresi Imunohistokimia dengan Usia Pasien di Rumah Sakit Dadi Keluarga Purwokerto. *Jurnal Penelitian Inovatif*. 4(4): 2385–2394.
- Bae, S. Y., Kim, S., Lee, J. H., Lee, H. chul, Lee, S. K., Kil, W. H., Kim, S. W., Lee, J. E., & Nam, S. J. 2015. Poor Prognosis of Single Hormone Receptor-Positive Breast Cancer: Similar Outcome as Triple-Negative Breast Cancer. *BMC Cancer*. 15(1): 1–9.
- Bray, F., Laversanne, M., Sung, H., Ferlay, J., Siegel, R. L., Soerjomataram, I., & Jemal, A. 2024. Global cancer statistics 2022: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*. 74(3): 229–263.

- Breast Cancer Research Foundation. 2025. *Invasive ductal carcinoma*. Available at: <https://www.bcrf.org> (Accessed: 10 January 2025).
- Bustreo, S., Osella-Abate, S., Cassoni, P., Donadio, M., Airolidi, M., Pedani, F., Sapino, A. & Castellano, I. 2016. Optimal Ki67 Cut-Off for Luminal Breast Cancer Prognostic Evaluation: A Large Case Series Study with A Long-Term Follow-Up. *Breast Cancer Research and Treatment*. 157(2): 363–371.
- Chin, K., Landén, A. H., Kovács, A., Wärnberg, F., Ekholm, M., Karlsson, P., & Olofsson Bagge, R. 2024. Tumor-Infiltrating Lymphocytes as A Predictor of Axillary and Primary Tumor Pathological Response After Neoadjuvant Chemotherapy in Patients With Breast Cancer: A Retrospective Cohort Study. *Breast Cancer Research and Treatment*. 207(1): 49–63.
- Ciptadi Purnama Wijaya, T. W. M. 2017. Hubungan Subtipe Imunohistokimia Dengan Usia pada Pasien *Carsinoma mammae* Di RSUP Sanglah Kota Denpasar. *E-Jurnal Medika Udayana*. 6(3): 2303–1395.
- Collins, L.C., Marotti, J.D., Gelber, S., Cole, K., Ruddy, K., Kereakoglow, S., Harris, L., Come, S. 2019. Breast Cancer in Women Under 40 Years of Age. *Breast Cancer Research and Treatment*, 178(2): 325–333.
- Denkert, C., von Minckwitz, G., Darb-Esfahani, S., Lederer, B., Heppner, B.I., Weber, K.E., Budczies, J., Huober, J., Klauschen, F., Furlanetto, J. and Loibl, S. 2018. Tumour-infiltrating Lymphocytes and Prognosis in Different Subtypes of Breast Cancer. *Journal of Clinical Oncology*. 36(7): 653–663.
- DeSantis, C.E., Ma, J., Gaudet, M.M., Newman, L.A., Miller, K.D., Goding Sauer, A., Jemal, A. and Siegel, R.L., 2019. Breast Cancer Statistics, 2019. *CA: A Cancer Journal for Clinicians*. 69(6): 438–451
- Diana, A., Carlino, F., Buono, G., Antoniol, G., Famiglietti, V., De Angelis, C., Carrano, S., Piccolo, A., De Vita, F., Ciardiello, F., Daniele, B., Arpino, G. & Orditura, M. 2022. Prognostic relevance of progesterone receptor levels in early luminal-like HER2-negative breast cancer subtypes: A retrospective analysis. *Frontiers in Oncology*. 12: 813462.
- Diana, D., & Kusmardi. 2020. Tumor-infiltrating lymphocytes dan Peranannya pada Karsinoma Payudara. *Maj Patol Indones*. 29(1): 30–40.

- Dieci, M. V., Griguolo, G., Bottosso, M., Tsvetkova, V., Giorgi, C. A., Vernaci, G., Michieletto, S., Angelini, S., Marchet, A., Tasca, G., Genovesi, E., Cumerlato, E., Lo Mele, M., Conte, P. F., Guarneri, V. 2021. Impact of Estrogen Receptor Levels on Outcome in Non-Metastatic Triple Negative Breast Cancer Patients Treated with Neoadjuvant/Adjuvant Chemotherapy. *Npj Breast Cancer*. 7(1): 1–7.
- Eliassen, A.H. 2025. Circulating Estrogen Metabolites and Risk of Breast Cancer among Postmenopausal Women in the Nurses' Health Study. *Cancer Epidemiology, Biomarkers & Prevention*. 34(3): 375–384.
- Fadhil, M.I., Wiratmoko, W., Marhayuni, E. and Yuniastini, Y. 2021. Survival Life Penderita *Carsinoma mammae* Wanita Berdasarkan Profil Imunohistokimia di RSUD Dr. H. Abdul Moeloek Provinsi Lampung. *Jurnal Medika Malahayati*. 5(3): 198–208.
- Firdaus, N. Z., & Susilowati, S. 2023. *Payudara Di Rumah Sakit Islam Sultan Agung Semarang Tahun 2022*. 20(2): 155–166.
- Fulop, T., Dupuis, G., Witkowski, J.M. and Larbi, A. 2018. The Role of Immunosenescence in the Development of Age-related Diseases. *Reviews in Endocrine and Metabolic Disorders*. 19(4): 291–302.
- Gao, Y., Yu, Y., Zhang, M., Yu, W., Yu, L. & Kang, L. 2024. *Mechanisms of Endocrine Resistance in Hormone Receptor-positive Breast Cancer*. *Frontiers in Oncology*. 14: 1448687.
- Gondhowiardjo, S.A., Handoko, H., Soeripto, A. and Ramli, M. 2020. Histopathological Grading Distribution of Breast Carcinoma Patients in Indonesia. *Asian Pacific Journal of Cancer Prevention*. 21(4): 1021–1027.
- Hacking, S. M., Yakirevich, E., & Wang, Y. 2022. From Immunohistochemistry to New Digital Ecosystems: A State-of-the-Art Biomarker Review for Precision Breast Cancer Medicine. *Cancers*. 14(14).
- Hammond, M.E.H., Hayes, D.F., Dowsett, M., Allred, D.C., Hagerty, K.L., Badve, S. (2020). *Estrogen and Progesterone Receptor Testing in Breast Cancer: ASCO/CAP Guideline Update*. American Society of Clinical Oncology / College of American Pathologists.

- Harbeck, N., Penault-Llorca, F., Cortes, J., Gnant, M., Houssami, N., Poortmans, P., Ruddy, K., Tsang, J. Cardoso, F. 2019. Breast Cancer. *Nature Reviews Disease Primers*. 5: 66.
- Hasnaini, H., Asri, A., & Mulyani, H. 2023. Hubungan Subtipe Molekuler dengan Densitas *Tumor Infiltrating Lymphocytes* Stroma pada Karsinoma Lobular Invasif Payudara. *Health and Medical Journal*. 5(1): 01–09.
- Howlader, N., Cronin, K.A., Kurian, A.W., Andridge, R. 2020. Differences in Breast Cancer Survival by Molecular Subtypes in the United States. *Journal of the National Cancer Institute*. 112(5): 500–509.
- Ishikawa, E., Watanabe, T., Kihara, T., Kuroiwa, M., Komatsu, M., Urano, S., Nagahashi, M., Hirota, S., & Miyoshi, Y. 2025. The Cytokine Profile Correlates with Less Tumor-Infiltrating Lymphocytes in Luminal A Breast Cancer. *Breast Cancer Research and Treatment*. 209(2): 291–302.
- Katsika, L., Boureka, E., Kalogiannidis, I., Tsakiridis, I., Tirodimos, I., Lallas, K., Tsimtsiou, Z., & Dagklis, T. 2024. Screening for Breast Cancer: A Comparative Review of Guidelines. *Life*. 14(6): 1–15.
- Kementerian Kesehatan Republik Indonesia. 2022. *Profil Kesehatan Indonesia 2021*. Jakarta: Kementerian Kesehatan RI.
- Khaerunnisa, A. bulqis, Latief, S., Syahrudin, F. I., Royani, I., & Juhamran, R. P. 2023. Hubungan Tingkat Pengetahuan dan Sikap terhadap Deteksi Dini *Carsinoma mammae* pada Pegawai RS Ibnu Sina. *Fakumi Medical Journal: Jurnal Mahasiswa Kedokteran*. 3(9): 685–694.
- Kim, H., Park, S., Lee, J., Kim, Y., Lee, K.-M., Han, W., Moon, H. 2023. *Progesterone receptor expression level predicts prognosis of estrogen receptor-positive/HER2-negative breast Cancer*. *Cancers*. 15(13): 3435.
- Kumar, V., Abbas, A. K., Aster, J. C. 2018. *Robbins Basic Pathology 10th Edition*. Philadelphia, Elsevier.
- Lashen, A. G., Toss, M. S., Mongan, N. P., Green, A. R., & Rakha, E. A. 2023. The Clinical Value of Progesterone Receptor Expression in Luminal Breast Cancer: A Study of A Large Cohort with Long-Term Follow-Up. *Cancer*. 129(8): 1183–1194.

- Li, Y., & Ma, L. 2021. Nomograms Predict Survival of Patients with Lymph Node-Positive, Luminal A Breast Cancer. *BMC Cancer*. 21(1): 1–17.
- Liambo, I. S., Frisitionady, A., & Malaka, M. H. 2022. Payudara Review: Pathophysiology, Epidemiology, and Cell Line of Breast Cancer. *Jurnal Farmasi, Sains, Dan Kesehatan*. 8(1): 17–22.
- Liaw, A. E., Wresnindyatsih, W., Nita, S., Murti, K., & Santoso, B. 2021. Hubungan antara Ekspresi Reseptor Estrogen, Progesteron dan Ki67 dengan Karakteristik Klinikopatologi pada Karsinoma Payudara Subtipe Luminal A. *Sriwijaya Journal of Medicine*. 4(3): 203–213.
- Liu, Z., Zhao, J., Zhang, H., Ke, J., Huang, L., Li, Y. 2018. Estrogen Receptor Beta Suppresses PD-L1 Expression Through Inhibition of NF- κ B signaling. *OncolImmunology*. 7(2): 1466011.
- Lohani, K.R., Hoskin, T.L., Day, C.N., Yasir, S., Boughey, J.C., Degnim, A.C. 2024. Lobular-like Features and Outcomes of Mixed Invasive Ductolobular Breast Cancer (MIDLC): Insights from A Large National Database. *Annals of Surgical Oncology*. 31: 36–946
- Loi, S., Drubay, D., Adams, S., Pruneri, G., Francis, P.A., Lacroix-Triki, M., Joensuu, H., Dieci, M.V., Badve, S., Demaria, S. 2019. Tumor-infiltrating Lymphocytes and Prognosis: A Pooled Individual Patient Analysis Of Early-Stage Triple-Negative Breast Cancers. *Journal of Clinical Oncology*, 37(7): 559–569.
- Loibl, S., Poortmans, P., Morrow, M., Denkert, C. and Curigliano, G., 2021. Breast cancer. *The Lancet*. 397: 1750–1769.
- Majdawati, A. 2021. Upaya Peningkatan Pengetahuan Seputar *Carsinoma mammae* , Sadari Untuk Deteksi Dini *Carsinoma mammae* Yogyakarta Karyawan Universitas Muhammadiyah Yogyakarta sebagai kelompok. *JMM (Jurnal Masyarakat Mandiri)*. 5(2): 561– 572.
- Makhlouf, H.R., Denkert, C., Salgado, R., Dieci, M.V. 2023. Artificial Intelligence–Based Evaluation of Stromal Tumor-Infiltrating Lymphocytes in Luminal Breast Cancer. *Modern Pathology*. 36(1): 100–111.

- Navarro, A., Del Hoyo, P., Estébanez-Perpiñá, E., & Palacios, R. 2018. Estrogen regulation of T-cell function and its impact on the tumor microenvironment. *Frontiers in Immunology*. 9: 1103.
- Nurerwan, M. A., Wulandari, I. R., Astuti, Y., & Widayani, W. 2022. Implementasi Metode Forward Chaining dan Certainty Factor Pada Sistem Pakar Diagnosis Penyakit Sinusitis. *Building of Informatics, Technology and Science (BITS)*. 4(3): 101–113.
- Nurmayeni, N., & Windarti, I. 2022. Gambaran Subtipe Molekuler *Carsinoma mammae* di Indonesia. *Jurnal Kesehatan Dan Agromedicine*. 9(2): 146–149.
- Rahmi, N., & Andika, F. 2022. Health Education About the Importance of Breast Examination in Adolescent Women in MAN 5 Aceh Besar District. *Pendidikan Kimia PPs UNM*. 1(1): 91–99.
- Prat, A., Guarneri, V., Paré, L., Griguolo, G., Pascual, T., Dieci, M.V., Chic, N., González-Farré, B., Sanfeliu, E. 2023. Clinical Implications of the Intrinsic Molecular Subtypes of Breast Cancer. *The Breast*. 68: 03–112.
- Schnitt, S.J. 2020. Classification and Prognosis of Invasive Breast Cancer: From Morphology to Molecular Taxonomy. *Modern Pathology*. 33(1): 64–77.
- Samad, M.A., Ahmad, I., Khan, M.R., Suhail, M., Zughaibi, T.A., Al-Abbasi, F.A., Alhosaini, K.A., Khan, M.S., Kumer, A. & Tabrez, S. (2025) *Breast cancer: Molecular pathogenesis and targeted therapy*. MedComm. 6: 70404.
- Sari, N. 2021. Karakteristik Penyebab *Carsinoma mammae* . *Jurnal Ilmiah PANNMED (Pharmacist, Analyst, Nurse, Nutrition, Midwifery, Environment, Dentist)*. 16(1): 177–181.
- Setiawan, W. 2021. Klasifikasi Histopatologi *Carsinoma mammae* . *Jurnal Sistem Informasi Bisnis*. 11(1): 70–77.
- Setyorini, G., Sasmitae, L., Fianza, P. I., & Kurnia, D. 2023. Hubungan Subtipe Molekuler *Carsinoma mammae* dengan Grading Histopatologi di RSUD M Yunus Bengkulu. *Intisari Sains Medis*. 14(2): 519–524.
- Shuai, Y., Ma, L., Huang, Y., Zhang, L., Wang, J. 2020. Progesterone receptor loss promotes IL-17-mediated immune infiltration in breast cancer. *Frontiers in Immunology*. 11: 595.

- Simbolon, Y. Y., & Pohan, P. U. 2021. Subtipe Molekuler Pasien *Carsinoma mammae* Invasif : Telaah Sistematis Tinjauan Pustaka Association of Lymphovascular Infiltration With Molecular Subtypes of Invasive Breast Cancer : a Systematic Review. 9: 15–22.
- Stanton, S.E., Disis, M.L., Lyman, G.H. 2021. Immune biomarkers in breast cancer. *Journal of Immunotherapy Cancer*. 9(2): 2073.
- Sugion. 2020. Jurnal Penelitian Perawat Profesional Pencegahan. *British Medical Journal*. 2(5474): 1333–1336.
- Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjomataram, I., Jemal, A., Bray, F. 2021. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide. CA: A Cancer Journal for Clinicians. 71(3): 209–249.
- Suparna, K., & Sari, L. M. K. K. S. 2022. *Carsinoma mammae* : Diagnostik, Faktor Risiko, Dan Stadium. *Ganesha Medicine*. 2(1): 42–48.
- Susanto, E., Sulaksono, N., Mulyati, S., & Semarang, P. K. 2020. *Jurnal Imejing Diagnostik*. 6: 1–6.
- Szekely, B., Bossuyt, V., Li, X., Wali, V., Patwardhan, G.A., Frederick, C., Choi, Y.L., Park, S.Y., Pusztai, L. 2022. Immunological Heterogeneity of Luminal Breast Cancer. *NPJ Breast Cancer*. 8(1): 37.
- Wu, M., Wang, S., Yuan, K., Xiong, B., Li, Y., & Lyu, S. 2024. Alteration of the Immune Microenvironment in the Axillary Metastatic Lymph Nodes of Luminal A Breast Cancer Patients. *World Journal of Surgical Oncology*. 22(1): 1–9.
- Xie, P., An, R., Yu, S., He, J., & Zhang, H. 2021. A Novel Immune Subtype Classification of ER-Positive, PR-Negative and HER2-Negative Breast Cancer Based on the Genomic and Transcriptomic Landscape. *Journal of Translational Medicine*. 19(1): 1–14.
- Xie, Y., Chen, X., Li, Y., Wang, J. 2025. Distinct Roles of Estrogen Receptor Alpha and Beta in Immune Regulation of Breast Cancer. *Trends in Cancer*. 11(2): 85–97.

- Yaşar, P., Ayaz, G., User, S.D., Güpür, G. & Muyan, M. 2017. Molecular Mechanism of Estrogen Receptor signaling. *Reproductive Medicine and Biology*. 16(4): 20.
- Zhang, X., Sun, Y., Chen, Q., Li, H., Wang, J., Liu, Y., Huang, P., Zhao, M., Yang, L. 2023. Identification of Luminal A Breast Cancer by Using Deep Learning and Multi-modal Imaging. *Frontiers in Oncology*. 13: 1243126.

