

DAFTAR PUSTAKA

- Acharya, N. *et al.* (2020) "Tim-3 finds its place in the cancer immunotherapy landscape," *Journal for ImmunoTherapy of Cancer*. BMJ Publishing Group. Available at: <https://doi.org/10.1136/jitc-2020-000911>.
- Ahmed S, S.F.B.F.S.R.B.N. (2021) "Immunohistochemical Expression of Galectin-9 in Oral Squamous Cell Carcinoma.," p. 48(9).
- Anastasia YA, D.Y.L.L. (2022) (2023) " Nasopharyngeal Carcinoma: Understanding Anatomy and Radiotherapy Side Effects In Proceeding of 19th Otorhinolaryngology Head and Neck Surgery National Congress Vol: 68 ," *In 19th Otorhinolaryngology head and neck surgery national congress (PERHATIKL 2022)*, pp. 261-265).
- Barjon, C. *et al.* (2012) "A novel monoclonal antibody for detection of galectin-9 in tissue sections: Application to human tissues infected by oncogenic viruses," *Infectious Agents and Cancer*, 7(1). Available at: <https://doi.org/10.1186/1750-9378-7-16>.
- Cai, Z. *et al.* (2022) "The Prognostic Impact of Combined Tumor-Infiltrating Lymphocytes and Pretreatment Blood Lymphocyte Percentage in Locally Advanced Nasopharyngeal Carcinoma," *Frontiers in Oncology*, 11. Available at: <https://doi.org/10.3389/fonc.2021.788497>.
- Chen, T.C. *et al.* (2017) "The immunologic advantage of recurrent nasopharyngeal carcinoma from the viewpoint of Galectin-9/Tim-3-related changes in the tumour microenvironment," *Scientific Reports*, 7(1). Available at: <https://doi.org/10.1038/s41598-017-10386-y>.
- Chen Y, C.A.L.Q. *et al.* (2019) "Nasopharyngeal carcinoma The Lancet," pp. 64–80.
- Choi, S. Il *et al.* (2017) "Prognostic value of tumoral expression of galectin-9 in gastric cancer," *Turkish Journal of Gastroenterology*, 28(3), pp. 166–170. Available at: <https://doi.org/10.5152/tjg.2017.16346>.
- Cree IA, *et al* (2024) "WHO Classification of Tumours : Head and Neck Tumours. 5th ed."
- Faisal, H.H. (2016) *GAMBARAN KARAKTERISTIK KARSINOMA NASOFARING DAN FAKTOR-FAKTOR YANG MEMPENGARUHI PROGNOSIS*.
- Febriani, V. *et al.* (2024) "Tumor Infiltrating Lymphocytes as an Independent Prognostic Factor in Undifferentiated Nasopharyngeal Carcinoma," *Asian Pacific Journal of Cancer Prevention*, 25(6), pp. 1997–2002. Available at: <https://doi.org/10.31557/APJCP.2024.25.6.1997>.
- Gao, X. *et al.* (2012) "TIM-3 Expression Characterizes Regulatory T Cells in Tumor Tissues and Is Associated with Lung Cancer Progression," *PLoS ONE*, 7(2), p. e30676. Available at: <https://doi.org/10.1371/journal.pone.0030676>.
- Gartner, L.P.. (2021) *Texto de histología : Atlas a color*. Elsevier.
- Goldblum JR, L.L.M.J.M.J. (2018) "Rosai and Ackerman's Surgical Pathology, Eleventh Edition," *Rosai and Ackerman's Surgical Pathology, Eleventh Edition*.
- Huang, Huageng *et al.* (2023) "Immunotherapy for nasopharyngeal carcinoma: Current status and prospects (Review)," *International Journal of Oncology*, 63(2). Available at: <https://doi.org/10.3892/ijo.2023.5545>.
- Jiang, J. and Ying, H. (2022) "Revealing the crosstalk between nasopharyngeal carcinoma and immune cells in the tumor microenvironment," *Journal of Experimental and Clinical Cancer Research*. BioMed Central Ltd. Available at: <https://doi.org/10.1186/s13046-022-02457-4>.
- Jiao, J. *et al.* (2022) *Galectin-9 expression predicts poor prognosis in hepatitis B virus-associated hepatocellular carcinoma*, *AGING 2022*. Available at: www.aging-us.com.
- Kam, N.W. *et al.* (2025) "Cell-associated galectin 9 interacts with cytotoxic T cells confers resistance to tumor killing in nasopharyngeal carcinoma through autophagy activation," *Cellular and Molecular Immunology*, 22(3), pp. 260–281. Available at: <https://doi.org/10.1038/s41423-024-01253-8>.

Karkempetzaki, A.I., Schatton, T. and Barthel, S.R. (2025) "Galectin-9—An Emerging Glyco-Immune Checkpoint Target for Cancer Therapy," *International Journal of Molecular Sciences*, 26(16), p. 7998. Available at: <https://doi.org/10.3390/ijms26167998>.

Lefebvre, A. *et al.* (2023) "Extracellular vesicles derived from nasopharyngeal carcinoma induce the emergence of mature regulatory dendritic cells using a galectin-9 dependent mechanism," *Journal of Extracellular Vesicles*, 12(12). Available at: <https://doi.org/10.1002/jev2.12390>.

Lv, Y. *et al.* (2023) "A new emerging target in cancer immunotherapy: Galectin-9 (LGALS9)," *Genes & Diseases*, 10(6), pp. 2366–2382. Available at: <https://doi.org/10.1016/j.gendis.2022.05.020>.

de Mello, R.A. *et al.* (2020) "Current and future aspects of TIM-3 as biomarker or as potential targeted in non-small cell lung cancer scope: Is there a role in clinical practice?," *Translational Lung Cancer Research*. AME Publishing Company, pp. 2311–2314. Available at: <https://doi.org/10.21037/tlcr-20-625>.

Pan, J.-J. *et al.* (2024) "Ninth Version of the AJCC and UICC Nasopharyngeal Cancer TNM Staging Classification," *JAMA Oncology*, 10(12), p. 1627. Available at: <https://doi.org/10.1001/jamaoncol.2024.4354>.

Prasetyo, A., Budiman, J. and Sadhana, U. (2021) "The Relationship between Tumor-infiltrating Lymphocytes (TILs) and Nasopharyngeal Carcinoma (NPC): A Systematic Review.," *Iranian journal of otorhinolaryngology*, 33(117), pp. 191–200. Available at: <https://doi.org/10.22038/ijorl.2021.51405.2733>.

Qu, W. *et al.* (2020) "Pattern and prognosis of distant metastases in nasopharyngeal carcinoma: A large-population retrospective analysis," *Cancer Medicine*, 9(17), pp. 6147–6158. Available at: <https://doi.org/10.1002/cam4.3301>.

Rozalén, C. *et al.* (2025) "TIM3(+) breast cancer cells license immune evasion during micrometastasis outbreak.," *Cancer cell*, 43(8), pp. 1549-1567.e9. Available at: <https://doi.org/10.1016/j.ccell.2025.06.015>.

Sauer, N. *et al.* (2023) "TIM-3 as a promising target for cancer immunotherapy in a wide range of tumors," *Cancer Immunology, Immunotherapy*. Springer Science and Business Media Deutschland GmbH, pp. 3405–3425. Available at: <https://doi.org/10.1007/s00262-023-03516-1>.

Shil, R.K., Mohammed, N.B.B. and Dimitroff, C.J. (2024) "Galectin-9 - ligand axis: an emerging therapeutic target for multiple myeloma.," *Frontiers in immunology*, 15, p. 1469794. Available at: <https://doi.org/10.3389/fimmu.2024.1469794>.

Su, Z.Y. *et al.* (2022) "Nasopharyngeal Carcinoma and Its Microenvironment: Past, Current, and Future Perspectives," *Frontiers in Oncology*, 12. Available at: <https://doi.org/10.3389/fonc.2022.840467>.

Toumi, N. *et al.* (2022) "Prognostic factors in metastatic nasopharyngeal carcinoma.," *Brazilian journal of otorhinolaryngology*, 88(2), pp. 212–219. Available at: <https://doi.org/10.1016/j.bjorl.2020.05.022>.

de Visser, K.E. and Joyce, J.A. (2023) "The evolving tumor microenvironment: From cancer initiation to metastatic outgrowth," *Cancer Cell*, 41(3), pp. 374–403. Available at: <https://doi.org/10.1016/j.ccell.2023.02.016>.

Xiao, Y. *et al.* (2020) "<p>TIM-3 Participates in the Invasion and Metastasis of Nasopharyngeal Carcinoma via SMAD7/SMAD2/SNAIL1 Axis-Mediated Epithelial-Mesenchymal Transition</p>," *OncoTargets and Therapy*, Volume 13, pp. 1993–2006. Available at: <https://doi.org/10.2147/OTT.S237222>.

Xie, X. *et al.* (2023) "Increased co-expression of TIM-3 with TIGIT or 2B4 on CD8+T cells is associated with poor prognosis in locally advanced nasopharyngeal carcinoma," *Biomolecules and Biomedicine*, 23(4), pp. 584–595. Available at: <https://doi.org/10.17305/bb.2022.8562>.

Xu, J.-Y. *et al.* (2022) "Current status and advances of immunotherapy in nasopharyngeal carcinoma," *Therapeutic Advances in Medical Oncology*, 14. Available at: <https://doi.org/10.1177/17588359221096214>.

Yang, L. *et al.* (2022) "The emergence of tumor-infiltrating lymphocytes in nasopharyngeal carcinoma: Predictive value and immunotherapy implications," *Genes and Diseases*. Chongqing University, pp. 1208–1219. Available at: <https://doi.org/10.1016/j.gendis.2021.07.002>.

Zhang, C. xia *et al.* (2020) "Galectin-9 promotes a suppressive microenvironment in human cancer by enhancing STING degradation," *Oncogenesis*, 9(7). Available at: <https://doi.org/10.1038/s41389-020-00248-0>.

Zhang, M. *et al.* (2024) "Galectin-9 in cancer therapy: from immune checkpoint ligand to promising therapeutic target," *Frontiers in Cell and Developmental Biology*, 11. Available at: <https://doi.org/10.3389/fcell.2023.1332205>.

Zhang, P. *et al.* (2018) "Downregulated Tim-3 expression is responsible for the incidence and development of colorectal cancer," *Oncology Letters* [Preprint]. Available at: <https://doi.org/10.3892/ol.2018.8697>.

Zhang, Y. *et al.* (2024) "Global epidemiological profile in nasopharyngeal carcinoma: a prediction study," *BMJ Open*, 14(12). Available at: <https://doi.org/10.1136/bmjopen-2024-091087>.

Zhu, Q. *et al.* (2021) "Advances in pathogenesis and precision medicine for nasopharyngeal carcinoma," *MedComm*, 2(2), pp. 175–206. Available at: <https://doi.org/10.1002/mco2.32>.

Zhuang, C. *et al.* (2021) "Low Distribution of TIM-3+ Cytotoxic Tumor-Infiltrating Lymphocytes Predicts Poor Outcomes in Gastrointestinal Stromal Tumors," *Journal of Immunology Research*, 2021, pp. 1–10. Available at: <https://doi.org/10.1155/2021/6647292>.

LAMPIRAN



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REKOMENDASI PERSETUJUAN ETIK

Nomor : 884/UN4.6.4.5.31/ PP36/ 2025

Tanggal: 4 Nopember 2025

Dengan ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH25080658	No Sponsor	
Peneliti Utama	dr. Andi Kapijah Rachsan	Sponsor	
Judul Peneliti	HUBUNGAN EKSPRESI TIM-3, GALECTIN-9 DAN GRADING TUMOR INFILTRATING LYMPHOCYTES (TILs) PADA KASUS METASTASIS DAN NON-METASTASIS KARSINOMA NASOFARING		
No Versi Protokol	2	Tanggal Versi	4 Nopember 2025
No Versi PSP		Tanggal Versi	
Tempat Penelitian	Rumah Sakit Universitas Hasanuddin Makassar		
Jenis Review	☐ Exempted ☒ Expedited ☐ Fullboard Tanggal	Masa Berlaku 4 Nopember 2025 sampai 4 Nopember 2026	Frekuensi review lanjutan
Ketua KEP Universitas Hasanuddin	Prof. dr. Muh Nasrum Massi, PhD, SpMK, Subsp. Bakt(K)	Tanda tangan	
Sekretaris KEP Universitas Hasanuddin	Prof. dr. Firdaus Hamid, PhD, SpMK(K)	Tanda tangan	

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari protokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan