UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

DAFTAR PUSTAKA

Ahmadpour, F., Karimi, A., Saadatmandfar, M.M., dan Karimi, S., 2023. Suppressing Effect of Human Wharton's Jelly Mesenchymal Stem Cell Secretomes on Oxidative Stress Induced by Breast Cancer Cell Line SK-BR3. *Jentashapir Journal of Cellular and Molecular Biology*, **14**: .

Almosa, H., Alqriqri, M., Denetiu, I., Baghdadi, M.A., Alkhaled, M., Alhosin, M., dkk., 2020. Cytotoxicity of Standardized Curcuminoids Mixture against Epithelial Ovarian Cancer Cell Line SKOV-3. *Scientia Pharmaceutica*, **88**: 11.

Alshehade, S.A., Almoustafa, H.A., Alshawsh, M.A., dan Chik, Z., 2024. Flow cytometry-based quantitative analysis of cellular protein expression in apoptosis subpopulations: A protocol. *Heliyon*, **10**: e33665.

Angeloni, C., Gatti, M., Prata, C., Hrelia, S., dan Maraldi, T., 2020. Role of Mesenchymal Stem Cells in Counteracting Oxidative Stress—Related Neurodegeneration. *International Journal of Molecular Sciences*, **21**: 3299.

Ardianto, C., Shen, R., Barus, J.F.A., Sasmita, P.K., Turana, Y., Lilis, L., dkk., 2022. Secretome as neuropathology-targeted intervention of Parkinson's disease. *Regenerative Therapy*, **21**: 288–293.

Aslantürk, Ö., Çelik, T., Karabey, B., dan Karabey, F., 2017. Active Phytochemical Detecting, Antioxidant, Cytotoxic, Apoptotic Activities of Ethyl Acetate and Methanol Extracts of Galium aparine L. *British Journal of Pharmaceutical Research*, **15**: 1–16.

Ayeni, E.A., Aldossary, A.M., Ayejoto, D.A., Gbadegesin, L.A., Alshehri, A.A., Alfassam, H.A., dkk., 2022. Neurodegenerative Diseases: Implications of Environmental and Climatic Influences on Neurotransmitters and Neuronal Hormones Activities. *International Journal of Environmental Research and Public Health*, **19**: 12495.

Belatriks, R. dan Octarina, 2024. Metode uji sitotoksisitas biomaterial dengan bentuk scaffold padatan dan berpori spons. *Jurnal Kedokteran Gigi Terpadu*, **6**: 53–56.

Bieging, K.T., Mello, S.S., dan Attardi, L.D., 2014. Unravelling mechanisms of p53-mediated tumour suppression. *Nature Reviews Cancer*, **14**: 359–370.

Blumenschein, G.R., Mills, G.B., dan Gonzalez-Angulo, A.M., 2012. Targeting the Hepatocyte Growth Factor–cMET Axis in Cancer Therapy. *Journal of Clinical Oncology*, **30**: 3287–3296.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Bodart-Santos, V., de Carvalho, L.R.P., de Godoy, M.A., Batista, A.F., Saraiva, L.M., Lima, L.G., dkk., 2019. Extracellular vesicles derived from human Wharton's jelly mesenchymal stem cells protect hippocampal neurons from oxidative stress and synapse damage induced by amyloid-β oligomers. *Stem Cell Research & Therapy*, **10**: 332.

Carlini, V., Noonan, D.M., Abdalalem, E., Goletti, D., Sansone, C., Calabrone, L., dkk., 2023. The multifaceted nature of IL-10: regulation, role in immunological homeostasis and its relevance to cancer, COVID-19 and post-COVID conditions. *Frontiers in Immunology*, **14**: .

Cavalcante, G.C., Schaan, A.P., Cabral, G.F., Santana-da-Silva, M.N., Pinto, P., Vidal, A.F., dkk., 2019. A Cell's Fate: An Overview of the Molecular Biology and Genetics of Apoptosis. *International Journal of Molecular Sciences*, **20**: 4133.

Chae, J., Kim, J.S., Choi, S.T., Lee, S.G., Ojulari, O.V., Kang, Y.J., dkk., 2021. Farrerol Induces Cancer Cell Death via ERK Activation in SKOV3 Cells and Attenuates TNF-α-Mediated Lipolysis. *International Journal of Molecular Sciences*, **22**: 9400.

Chang, T.-H. dan Ho, P.-C., 2025. Interferon-driven Metabolic Reprogramming and Tumor Microenvironment Remodeling. *Immune Network*, **25**: e8.

Chen, P., Tang, S., Gao, H., Zhang, H., Chen, C., Fang, Z., dkk., 2022. Wharton's jelly mesenchymal stem cell-derived small extracellular vesicles as natural nanoparticles to attenuate cartilage injury via microRNA regulation. *International Journal of Pharmaceutics*, **623**: 121952.

Chen, S., Saeed, A.F.U.H., Liu, Q., Jiang, Q., Xu, H., Xiao, G.G., dkk., 2023. Macrophages in immunoregulation and therapeutics. *Signal Transduction and Targeted Therapy*, **8**: 207.

Chiodoni, C., Di Martino, M.T., Zazzeroni, F., Caraglia, M., Donadelli, M., Meschini, S., dkk., 2019. Cell communication and signaling: how to turn bad language into positive one. *Journal of Experimental & Clinical Cancer Research : CR*, **38**: 128.

Cho, S.-J. dan Pyo, S., 2010. Interferon-gamma enhances the apoptosis of macrophages under trophic stress through activation of p53 and the JAK1 pathway. *Archives of Pharmacal Research*, **33**: 285–291.

Chulpanova, D.S., Kitaeva, K.V., Green, A.R., Rizvanov, A.A., dan Solovyeva, V.V., 2020. Molecular Aspects and Future Perspectives of Cytokine-Based Anti-cancer Immunotherapy. *Frontiers in Cell and Developmental Biology*, **8**: 402.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Dalman, M.R., Deeter, A., Nimishakavi, G., dan Duan, Z.-H., 2012. Fold change and p-value cutoffs significantly alter microarray interpretations. *BMC Bioinformatics*, **13**: S11.

Damayanti, R.H., Rusdiana, T., dan Wathoni, N., 2021. Mesenchymal Stem Cell Secretome for Dermatology Application: A Review. *Clinical, Cosmetic and Investigational Dermatology*, **14**: 1401–1412.

Doak, S.H. dan Zaïr, Z.M., 2012. Real-Time Reverse-Transcription Polymerase Chain Reaction: Technical Considerations for Gene Expression Analysis, dalam: Parry, J.M. dan Parry, E.M. (Editor), *Genetic Toxicology: Principles and Methods*. Springer, New York, NY, hal. 251–270.

Dominiak, A., Chełstowska, B., Olejarz, W., dan Nowicka, G., 2020. Communication in the Cancer Microenvironment as a Target for Therapeutic Interventions. *Cancers*, **12**: 1232.

Dong, Y., Chen, J., Chen, Y., dan Liu, S., 2023. Targeting the STAT3 oncogenic pathway: Cancer immunotherapy and drug repurposing. *Biomedicine & Pharmacotherapy*, **167**: 115513.

Dorfaki, M., Ghatrehsamani, M., Arab, F.L., Roozbehani, M., Khoshmirsafa, M., Falak, R., dkk., 2024. Effects of Adipose-tissue Derived Mesenchymal Stem Cells on PBMCs in Co-culture with HeLa Cell Line. *Turkish Journal of Immunology*, **12**: 19–27.

Drobiova, H., Sindhu, S., Ahmad, R., Haddad, D., Al-Mulla, F., dan Al Madhoun, A., 2023. Wharton's jelly mesenchymal stem cells: a concise review of their secretome and prospective clinical applications. *Frontiers in Cell and Developmental Biology*, **11**: 1211217.

Du, J., Zhou, L., Chen, X., Yan, S., Ke, M., Lu, X., dkk., 2012. IFN-γ-primed human bone marrow mesenchymal stem cells induce tumor cell apoptosis in vitro via tumor necrosis factor-related apoptosis-inducing ligand. *The International Journal of Biochemistry & Cell Biology*, **44**: 1305–1314.

Du, Y., Zhuansun, Y., Chen, R., Lin, L., Lin, Y., dan Li, J., 2018. Mesenchymal stem cell exosomes promote immunosuppression of regulatory T cells in asthma. *Experimental Cell Research*, **363**: 114–120.

Elshaer, S.L., Bahram, S.H., Rajashekar, P., Gangaraju, R., dan El-Remessy, A.B., 2021. Modulation of Mesenchymal Stem Cells for Enhanced Therapeutic Utility in Ischemic Vascular Diseases. *International Journal of Molecular Sciences*, **23**: 249.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Erta, M., Quintana, A., dan Hidalgo, J., 2012. Interleukin-6, a Major Cytokine in the Central Nervous System. *International Journal of Biological Sciences*, **8**: 1254–1266.

Esfahani, K., Roudaia, L., Buhlaiga, N., Del Rincon, S.V., Papneja, N., dan Miller, W.H., 2020. A review of cancer immunotherapy: from the past, to the present, to the future. *Current Oncology*, **27**: S87–S97.

Evans, D.M., Fang, J., Silvers, T., Delosh, R., Laudeman, J., Ogle, C., dkk., 2019. Exposure time versus cytotoxicity for anticancer agents. *Cancer chemotherapy and pharmacology*, **84**: 359–371.

Fares, J., Fares, M.Y., Khachfe, H.H., Salhab, H.A., dan Fares, Y., 2020. Molecular principles of metastasis: a hallmark of cancer revisited. *Signal Transduction and Targeted Therapy*, **5**: 28.

Fath, D.H.M., Muchlisin, M.A., dan Jamil, A.S., 2024. Analisis Network Pharmacology Senyawa Metabolit Sekunder Tanaman Lengkuas (Alpinia galanga) pada Penyakit Kanker. *Journal of Islamic Pharmacy*, **9**: 43–49.

Fatihaturahmi, F., Yuliana, Y., dan Yulastri, A., 2023. Literature Review : Penyakit Degeneratif : Penyebab, Akibat, Pencegahan Dan Penanggulangan. *JGK: Jurnal Gizi dan Kesehatan*, **3**: 63–72.

Fezza, M., Hilal, G., Tahtouh, R., Moubarak, M., dan Atallah, D., 2023. HSP27 modulates tumoural immune evasion by enhancing STAT3-mediated upregulation of PD-L1 and NLRC5 in ovarian cancer. *ecancermedicalscience*, **17**: .

Foo, J.B., Looi, Q.H., Chong, P.P., Hassan, N.H., Yeo, G.E.C., Ng, C.Y., dkk., 2021. Comparing the Therapeutic Potential of Stem Cells and their Secretory Products in Regenerative Medicine. *Stem Cells International*, **2021**: 1–30.

Garcia-Contreras, M. dan Thakor, A.S., 2021. Human adipose tissue-derived mesenchymal stem cells and their extracellular vesicles modulate lipopolysaccharide activated human microglia. *Cell Death Discovery*, **7**: 1–13.

Gardner, G.L., Moradi, F., Moffatt, C., Cliche, M., Garlisi, B., Gratton, J., dkk., 2022. Rapid nutrient depletion to below the physiological range by cancer cells cultured in Plasmax. *American Journal of Physiology-Cell Physiology*, **323**: C823–C834.

Ghasemi, M., Roshandel, E., Mohammadian, M., Farhadihosseinabadi, B., Akbarzadehlaleh, P., dan Shamsasenjan, K., 2023. Mesenchymal stromal

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

cell-derived secretome-based therapy for neurodegenerative diseases: overview of clinical trials. *Stem Cell Research & Therapy*, **14**: 122.

Ghasemi, M., Turnbull, T., Sebastian, S., dan Kempson, I., 2021. The MTT Assay: Utility, Limitations, Pitfalls, and Interpretation in Bulk and Single-Cell Analysis. *International Journal of Molecular Sciences*, **22**: 12827.

Glaviano, A., Foo, A.S.C., Lam, H.Y., Yap, K.C.H., Jacot, W., Jones, R.H., dkk., 2023. PI3K/AKT/mTOR signaling transduction pathway and targeted therapies in cancer. *Molecular Cancer*, **22**: 138.

González-Fernández, C., González, P., dan Rodríguez, F.J., 2020. New insights into Wnt signaling alterations in amyotrophic lateral sclerosis: a potential therapeutic target? *Neural Regeneration Research*, **15**: 1580–1589.

González-González, A., García-Sánchez, D., Dotta, M., Rodríguez-Rey, J.C., dan Pérez-Campo, F.M., 2020. Mesenchymal stem cells secretome: The cornerstone of cell-free regenerative medicine. *World Journal of Stem Cells*, **12**: 1529–1552.

Govindarajulu, M., Pinky, P.D., Bloemer, J., Ghanei, N., Suppiramaniam, V., dan Amin, R., 2018. Signaling Mechanisms of Selective PPARγ Modulators in Alzheimer's Disease. *PPAR Research*, **2018**: 2010675.

Green, M.R. dan Sambrook, J., 2019. Amplification of cDNA Generated by Reverse Transcription of mRNA: Two-Step Reverse Transcription-Polymerase Chain Reaction (RT-PCR). *Cold Spring Harbor Protocols*, **2019**: pdb.prot095190.

Guan, X., 2015. Cancer metastases: challenges and opportunities. *Acta Pharmaceutica Sinica B*, **5**: 402–418.

Gugliandolo, A., Bramanti, P., dan Mazzon, E., 2020. Mesenchymal Stem Cells in Multiple Sclerosis: Recent Evidence from Pre-Clinical to Clinical Studies. *International Journal of Molecular Sciences*, **21**: 8662.

Hallas-Potts, A., Dawson, J.C., dan Herrington, C.S., 2019. Ovarian cancer cell lines derived from non-serous carcinomas migrate and invade more aggressively than those derived from high-grade serous carcinomas. *Scientific Reports*, **9**: 5515.

Han, I., Yun, M., Kim, E.-O., Kim, B., Jung, M.-H., dan Kim, S.-H., 2018. Retraction Note: Umbilical cord tissue-derived mesenchymal stem cells induce apoptosis in PC-3 prostate cancer cells through activation of JNK and downregulation of PI3K/AKT signaling. *Stem Cell Research & Therapy*, **9**: 354.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Hanahan, D. dan Weinberg, R.A., 2011. Hallmarks of Cancer: The Next Generation. *Cell*, **144**: 646–674.

Handayani, P., Jasrin, T.A., dan Widyaputra, S., 2016. Limfangiogenesis sebagai jalur alternatif metastasis kankerLymphangiogenesis as an alternative pathway for cancer metastasis. *Jurnal Kedokteran Gigi Universitas Padjadjaran*, **28**: .

Hanna, S. dan Etzioni, A., 2014. MHC class I and II deficiencies. *Journal of Allergy and Clinical Immunology*, **134**: 269–275.

Harrell, C.R., Volarevic, A., dan Volarevic, V., 2022. Therapeutic Effects of Mesenchymal Stem Cells on Cognitive Deficits, dalam: Haider, K.H. (Editor), *Handbook of Stem Cell Therapy*. Springer Nature, Singapore, hal. 413–436.

He, Y., Sun, M.M., Zhang, G.G., Yang, J., Chen, K.S., Xu, W.W., dkk., 2021. Targeting PI3K/Akt signal transduction for cancer therapy. *Signal Transduction and Targeted Therapy*, **6**: 425.

Hendijani, F., Javanmard, S.H., Rafiee, L., dan Sadeghi-aliabadi, H., 2015. Effect of human Wharton's jelly mesenchymal stem cell secretome on proliferation, apoptosis and drug resistance of lung cancer cells. *Research in Pharmaceutical Science*, .

Hoang, D.M., Pham, P.T., Bach, T.Q., Ngo, A.T.L., Nguyen, Q.T., Phan, T.T.K., dkk., 2022. Stem cell-based therapy for human diseases. *Signal Transduction and Targeted Therapy*, **7**: 272.

Hsu, H.-S., Lin, J.-H., Hsu, T.-W., Su, K., Wang, C.-W., Yang, K.-Y., dkk., 2012. Mesenchymal stem cells enhance lung cancer initiation through activation of IL-6/JAK2/STAT3 pathway. *Lung Cancer (Amsterdam, Netherlands)*, **75**: 167–177.

Hu, M., Wang, L., Zhang, F., Xie, Y., Zhang, T., Liu, H., dkk., 2025. Network pharmacology combined with molecular docking and experimental validation of the mechanism of action of columbianetin acetate in the treatment of ovarian cancer. *Frontiers in Oncology*, **15**: 1515976.

Im, J.H., Buzzelli, J.N., Jones, K., Franchini, F., Gordon-Weeks, A., Markelc, B., dkk., 2020. FGF2 alters macrophage polarization, tumour immunity and growth and can be targeted during radiotherapy. *Nature Communications*, **11**: 4064.

Ismahyati, A.A., Palupi, I., dan Aditsania, A., 2022. Respon Sel Tumor Terhadap Pengobatan Imunoterapi Menggunakan Model Ode (persamaan Diferensial Biasa). *eProceedings of Engineering*, **9**: .

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Jalali, M.S., Sarkaki, A., Farbood, Y., Azandeh, S.S., Mansouri, E., Ghasemi Dehcheshmeh, M., dkk., 2020. Transplanted Wharton's jelly mesenchymal stem cells improve memory and brain hippocampal electrophysiology in rat model of Parkinson's disease. *Journal of Chemical Neuroanatomy*, **110**: 101865.

Jalali, M.S., Sarkaki, A., Farbood, Y., Azandeh, S.S., Mansouri, E., Ghasemi Dehcheshmeh, M., dkk., 2021. Neuroprotective effects of Wharton's jelly-derived mesenchymal stem cells on motor deficits due to Parkinson's disease. *Iranian Journal of Basic Medical Sciences*, **24**: 1173–1181.

Janalipour, K., 2019. Multiple sclerosis symptoms, dalam: *Neurological Disorders and Imaging Physics, Volume 2: Engineering and Clinical Perspectives of Multiple Sclerosis*. hal. 123–154.

Jian, X.-L., Zeng, P.-H., Li, K.-X., dan Peng, W., 2023. FGF2 promotes the chemotherapy resistance in colon cancer cells through activating PI3K/Akt signaling pathway. *Oncology and Translational Medicine*, **9**: 281.

Jiang, T., Zhou, C., dan Ren, S., 2016. Role of IL-2 in cancer immunotherapy. *Oncoimmunology*, **5**: e1163462.

Joo, K.-M., Kim, S., Koo, Y.J., Lee, M., Lee, S.-H., Choi, D., dkk., 2019. Development and validation of UPLC method for WST-1 cell viability assay and its application to MCTT HCE^{TM} eye irritation test for colorful substances. *Toxicology in vitro: an international journal published in association with BIBRA*, **60**: 412–419.

Jorgovanovic, D., Song, M., Wang, L., dan Zhang, Y., 2020. Roles of IFN-γ in tumor progression and regression: a review. *Biomarker Research*, **8**: 49.

Kalamegam, G., Sait, K.H.W., Ahmed, F., Kadam, R., Pushparaj, P.N., Anfinan, N., dkk., 2018. Human Wharton's Jelly Stem Cell (hWJSC) Extracts Inhibit Ovarian Cancer Cell Lines OVCAR3 and SKOV3 in vitro by Inducing Cell Cycle Arrest and Apoptosis. *Frontiers in Oncology*, **8**: 592.

Khalil, C., Moussa, M., Azar, A., Tawk, J., Habbouche, J., Salameh, R., dkk., 2019. Anti-proliferative effects of mesenchymal stem cells (MSCs) derived from multiple sources on ovarian cancer cell lines: an in-vitro experimental study. *Journal of Ovarian Research*, **12**: 70.

Kim, D.-W., Staples, M., Shinozuka, K., Pantcheva, P., Kang, S.-D., dan Borlongan, C., 2013. Wharton's Jelly-Derived Mesenchymal Stem Cells: Phenotypic Characterization and Optimizing Their Therapeutic Potential for Clinical Applications. *International Journal of Molecular Sciences*, **14**: 11692–11712.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Ko, E., Yoon, T., Lee, Y., Kim, J., dan Park, Y.-B., 2023. ADSC secretome constrains NK cell activity by attenuating IL-2-mediated JAK-STAT and AKT signaling pathway via upregulation of CIS and DUSP4. *Stem Cell Research & Therapy*, **14**: 329.

Konala, V.B.R., Bhonde, R., dan Pal, R., 2020. Secretome studies of mesenchymal stromal cells (MSCs) isolated from three tissue sources reveal subtle differences in potency. *In Vitro Cellular & Developmental Biology - Animal*, **56**: 689–700.

Langguth, M., Maranou, E., Koskela, S.A., Elenius, O., Kallionpää, R.E., Birkman, E.-M., dkk., 2024. TIMP-1 is an activator of MHC-I expression in myeloid dendritic cells with implications for tumor immunogenicity. *Genes & Immunity*, **25**: 188–200.

Lawrenti, H., 2018. Perkembangan Imunoterapi untuk Kanker. *Cermin Dunia Kedokteran*, **45**: .

Lee, J.M., Yoon, S.H., Kim, H.-S., Kim, S.Y., Sohn, H.-J., Oh, S.-T., dkk., 2010. Direct and indirect antitumor effects by human peripheral blood lymphocytes expressing both chimeric immune receptor and interleukin-2 in ovarian cancer xenograft model. *Cancer Gene Therapy*, **17**: 742–750.

Li, X., Liu, Z., Liao, J., Chen, Q., Lu, X., dan Fan, X., 2023. Network pharmacology approaches for research of Traditional Chinese Medicines. *Chinese Journal of Natural Medicines*, **21**: 323–332.

Li, Z., Liu, Q., Zhu, Y., Wu, L., Liu, W., Li, J., dkk., 2022. Network Pharmacology, Molecular Docking, and Experimental Validation to Unveil the Molecular Targets and Mechanisms of Compound Fuling Granule to Treat Ovarian Cancer. *Oxidative Medicine and Cellular Longevity*, **2022**: 2896049.

Lim, P.T., Goh, B.H., dan Lee, W.-L., 2022. 3 - Taxol: Mechanisms of action against cancer, an update with current research, dalam: Swamy, M.K., Pullaiah, T., dan Chen, Z.-S. (Editor), *Paclitaxel*. Academic Press, hal. 47–71.

Lupi, L.A., Cucielo, M.S., Silveira, H.S., Gaiotte, L.B., Cesário, R.C., Seiva, F.R.F., dkk., 2020. The role of Toll-like receptor 4 signaling pathway in ovarian, cervical, and endometrial cancers. *Life Sciences*, **247**: 117435.

Maacha, S., Sidahmed, H., Jacob, S., Gentilcore, G., Calzone, R., Grivel, J.-C., dkk., 2020. Paracrine Mechanisms of Mesenchymal Stromal Cells in Angiogenesis. *Stem Cells International*, **2020**: 4356359.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Malekan, M., Nezamabadi, S.S., Samami, E., Mohebalizadeh, M., Saghazadeh, A., dan Rezaei, N., 2023. BDNF and its signaling in cancer. *Journal of Cancer Research and Clinical Oncology*, **149**: 2621–2636.

Marconi, S., Bonaconsa, M., Scambi, I., Squintani, G.M., Rui, W., Turano, E., dkk., 2013. Systemic treatment with adipose-derived mesenchymal stem cells ameliorates clinical and pathological features in the amyotrophic lateral sclerosis murine model. *Neuroscience*, **248**: 333–343.

Marcus, A.J. dan Woodbury, D., 2008. Fetal stem cells from extra-embryonic tissues: do not discard. *Journal of Cellular and Molecular Medicine*, **12**: 730–742.

Marino, L., Castaldi, M.A., Rosamilio, R., Ragni, E., Vitolo, R., Fulgione, C., dkk., 2019. Mesenchymal Stem Cells from the Wharton's Jelly of the Human Umbilical Cord: Biological Properties and Therapeutic Potential. *International Journal of Stem Cells*, **12**: 218–226.

Martinez, F.O. dan Gordon, S., 2014. The M1 and M2 paradigm of macrophage activation: time for reassessment. *F1000Prime Reports*, **6**: .

Mason, J. dan Öhlund, D., 2023. Key aspects for conception and construction of co-culture models of tumor-stroma interactions. *Frontiers in Bioengineering and Biotechnology*, **11**: .

Maurya, D.K., Bandekar, M., dan Sandur, S.K., 2022. Soluble factors secreted by human Wharton's jelly mesenchymal stromal/stem cells exhibit therapeutic radioprotection: A mechanistic study with integrating network biology. *World Journal of Stem Cells*, **14**: 347–361.

Michalkova, R., Mirossay, L., Kello, M., Mojzisova, G., Baloghova, J., Podracka, A., dkk., 2023. Anticancer Potential of Natural Chalcones: In Vitro and In Vivo Evidence. *International Journal of Molecular Sciences*, **24**: 10354.

Mirabdollahi, M., 2019. An anticancer effect of umbilical cord-derived mesenchymal stem cell secretome on the breast cancer cell line. *Cell and Tissue Banking*, **20**: 423–434.

Mukai, T., Tojo, A., dan Nagamura-Inoue, T., 2018. Umbilical Cord-Derived Mesenchymal Stromal Cells Contribute to Neuroprotection in Neonatal Cortical Neurons Damaged by Oxygen-Glucose Deprivation. *Frontiers in Neurology*, **9**: .

Na, Y.R., Jung, D., Song, J., Park, J.-W., Hong, J.J., dan Seok, S.H., 2020. Pyruvate dehydrogenase kinase is a negative regulator of interleukin-10 production in macrophages. *Journal of Molecular Cell Biology*, **12**: 543–555.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Nadhira, M., Puspitasari, R.L., Moegni, K.F., Rosadi, I., dan Rosliana, I., 2018. Profil Peripheral Blood Mononuclear Cells (PBMC) Pasien dengan Berbagai Usia Menggunakan Flow Cytometry di Klinik Hayandra. *JURNAL Al-AZHAR INDONESIA SERI SAINS DAN TEKNOLOGI*, **4**: 208.

Nazarpour, R., Zabihi, E., Alijanpour, E., Abedian, Z., Mehdizadeh, H., dan Rahimi, F., 2012. Optimization of Human Peripheral Blood Mononuclear Cells (PBMCs) Cryopreservation. *International Journal of Molecular and Cellular Medicine*, **1**: 88–93.

Nie, Z., Fan, Q., Jiang, W., Wei, S., Luo, R., Hu, H., dkk., 2024. Placental mesenchymal stem cells suppress inflammation and promote M2-like macrophage polarization through the IL-10/STAT3/NLRP3 axis in acute lung injury. *Frontiers in Immunology*, **15**: 1422355.

Noor, F., Tahir ul Qamar, M., Ashfaq, U.A., Albutti, A., Alwashmi, A.S.S., dan Aljasir, M.A., 2022. Network Pharmacology Approach for Medicinal Plants: Review and Assessment. *Pharmaceuticals*, **15**: 572.

Nurdiani, E., Masriani, M., Rasmawan, R., Muharini, R., dan Sartika, R.P., 2023. Sitotoksisitas dan Selektivitas Fraksi Kayu Batang Simpur Air (Dillenia suffruticosa (Griff.) Martelli) Terhadap Sel Kanker Payudara. *Al-Kauniyah: Jurnal Biologi*, **17**: 190–200.

Nwabo Kamdje, A.H., Seke Etet, P.F., Kipanyula, M.J., Vecchio, L., Tagne Simo, R., Njamnshi, A.K., dkk., 2022. Insulin-like growth factor-1 signaling in the tumor microenvironment: Carcinogenesis, cancer drug resistance, and therapeutic potential. *Frontiers in Endocrinology*, **13**: 927390.

Okamoto, M. dan Yamamoto, M., 2024. TCR Signals Controlling Adaptive Immunity against Toxoplasma and Cancer, dalam: Matsumoto, M. (Editor), *Basic Immunology and Its Clinical Application*. Springer Nature, Singapore, hal. 177–193.

Oktaviono, Y.H., Sandra, F., Hutomo, S.A., Pramudita, C., Isaridha, I.A., Susanti, M., dkk., 2021. 'The Effect of Human Umbilical Cord Blood- Mesenchymal Stem Cells-Derived Secretome on the Proliferation and Migration of Endothelial Progenitor Cells', , dalam: Jarm, T., Cvetkoska, A., Mahnič-Kalamiza, S., dan Miklavcic, D. (Editor), *8th European Medical and Biological Engineering Conference*. Springer International Publishing, Cham, hal. 622–630.

Olbromski, P.J., Bogacz, A., Bukowska, M., Kamiński, A., Moszyński, R., Pawlik, P., dkk., 2023. Analysis of the Polymorphisms and Expression Levels of the BCL2, BAX and c-MYC Genes in Patients with Ovarian Cancer. *International Journal of Molecular Sciences*, **24**: 16309.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Ou, L., Li, M., dan Hou, Y., 2024. Network pharmacology, bioinformatics, and experimental validation to identify the role of *Hedyotis diffusa* willd against gastric cancer through the activation of the endoplasmic reticulum stress. *Heliyon*, **10**: e28833.

Paduch, R., Klatka, M., Pieniądz, P., Wertel, I., Pawłowska, A., dan Klatka, J., 2024. Reciprocal Interactions of Human Monocytes and Cancer Cells in Co-Cultures In Vitro. *Current Issues in Molecular Biology*, **46**: 6836–6852.

Paramee, S., Sookkhee, S., Sakonwasun, C., Na Takuathung, M., Mungkornasawakul, P., Nimlamool, W., dkk., 2018. Anti-cancer effects of Kaempferia parviflora on ovarian cancer SKOV3 cells. *BMC Complementary and Alternative Medicine*, **18**: 178.

Pfeffer, C. dan Singh, A., 2018. Apoptosis: A Target for Anticancer Therapy. *International Journal of Molecular Sciences*, **19**: 448.

Piscopo, P., Bellenghi, M., Manzini, V., Crestini, A., Pontecorvi, G., Corbo, M., dkk., 2021. A Sex Perspective in Neurodegenerative Diseases: microRNAs as Possible Peripheral Biomarkers. *International Journal of Molecular Sciences*, **22**: 4423.

Präbst, K., Engelhardt, H., Ringgeler, S., dan Hübner, H., 2017. Basic Colorimetric Proliferation Assays: MTT, WST, and Resazurin, dalam: Gilbert, D.F. dan Friedrich, O. (Editor), *Cell Viability Assays: Methods and Protocols*. Springer, New York, NY, hal. 1–17.

Prawiragara, F.A., Ferdiansyah, F., Edward, M., Utomo, D.N., Basuki, M.H., Nugraha, A.P., dkk., 2022. Activation of microvesicle peripheral blood mononuclear cells by mesenchymal stem cells secretome co-cultivated with osteosarcoma stem cell. *Journal of Pharmacy & Pharmacognosy Research*, **10**: 782–790.

Purwaningsih, E., 2017. Pemendekan Telomer Dan Apoptosis. *Jurnal Kedokteran YARSI*, **22**: 132–141.

Putri, N.P., Ali, H., Tofrizal, T., Darwin, E., Susanti, R., dan Hasmiwati, H., 2023. Pengaruh Pemberian Mesenchymal Stem Cells Wharton's Jelly terhadap Ekspresi Gen PPAR-γ pada Tikus Alzheimer. *Jurnal Kesehatan Andalas*, **12**: 70.

Rahmatizadeh, F., Pashaei-Asl, F., Mohammadi Dehcheshmeh, M., Rahbar, S., LaleAtaei, M., Gholizadeh-Ghaleh Aziz, S., dkk., 2019. Reduction in the Viability of Human Cervical Cancer HeLa Cell Line via Indirect Co-culture With Amniotic Fluid-Derived Mesenchymal Stem Cells. *International Journal of Women's Health and Reproduction Sciences*, **8**: 319–327.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Rascio, F., Spadaccino, F., Rocchetti, M.T., Castellano, G., Stallone, G., Netti, G.S., dkk., 2021. The Pathogenic Role of PI3K/AKT Pathway in Cancer Onset and Drug Resistance: An Updated Review. *Cancers*, **13**: 3949.

Raskov, H., Orhan, A., Christensen, J.P., dan Gögenur, I., 2021. Cytotoxic CD8+ T cells in cancer and cancer immunotherapy. *British Journal of Cancer*, **124**: 359–367.

Ray, S.D., Yang, N., Niha, A., dan Genis, D., 2023. Apoptosis, dalam: *Encyclopedia of Toxicology, Fourth Edition: Volume 1-9*. hal. V1-731.

Rezaei-Tazangi, F., Alidadi, H., Samimi, A., Karimi, S., dan Kahorsandi, L., 2020. Effects of Wharton's jelly mesenchymal stem cells-derived secretome on colon carcinoma HT-29 cells. *Tissue and Cell*, **67**: 101413.

Rueda, A., Serna, N., Mangues, R., Villaverde, A., dan Unzueta, U., 2025. Targeting the chemokine receptor CXCR4 for cancer therapies. *Biomarker Research*, **13**: 68.

Sahu, M. dan Suryawanshi, H., 2021. Immunotherapy: The future of cancer treatment. *Journal of Oral and Maxillofacial Pathology*, **25**: 371.

Salkeni, M.A. dan Naing, A., 2023. Interleukin-10 in cancer immunotherapy: from bench to bedside. *Trends in Cancer*, **9**: 716–725.

Salwierak-Głośna, K., Piątek, P., Domowicz, M., dan Świderek-Matysiak, M., 2022. Effect of Multiple Sclerosis Cerebrospinal Fluid and Oligodendroglia Cell Line Environment on Human Wharton's Jelly Mesenchymal Stem Cells Secretome. *International Journal of Molecular Sciences*, **23**: 2177.

Sandonà, M., Di Pietro, L., Esposito, F., Ventura, A., Silini, A.R., Parolini, O., dkk., 2021. Mesenchymal Stromal Cells and Their Secretome: New Therapeutic Perspectives for Skeletal Muscle Regeneration. *Frontiers in Bioengineering and Biotechnology*, **9**: 652970.

Schuermans, S., Kestens, C., dan Marques, P.E., 2024. Systemic mechanisms of necrotic cell debris clearance. *Cell Death & Disease*, **15**: 557.

Semenov, O.V., Koestenbauer, S., Riegel, M., Zech, N., Zimmermann, R., Zisch, A.H., dkk., 2010. Multipotent mesenchymal stem cells from human placenta: critical parameters for isolation and maintenance of stemness after isolation. *American Journal of Obstetrics and Gynecology*, **202**: 193.e1-193.e13.

Sen, P., Kemppainen, E., dan Orešič, M., 2018. Perspectives on Systems Modeling of Human Peripheral Blood Mononuclear Cells. *Frontiers in Molecular Biosciences*, **4**: 96.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Sevko, A., Kremer, V., Falk, C., Umansky, L., Shurin, M.R., Shurin, G.V., dkk., 2012. Application of paclitaxel in low non-cytotoxic doses supports vaccination with melanoma antigens in normal mice. *Journal of Immunotoxicology*, **9**: 275–281.

Seyhan, M.F., Yılmaz, E., Timirci-Kahraman, Ö., Saygılı, N., Kısakesen, H.İ., Gazioğlu, S., dkk., 2019. Different propolis samples, phenolic content, and breast cancer cell lines: Variable cytotoxicity ranging from ineffective to potent. *IUBMB Life*, **71**: 619–631.

Sheikhpour, E., Noorbakhsh, P., Foroughi, E., Farahnak, S., Nasiri, R., dan Neamatzadeh, H., 2018. A Survey on the Role of Interleukin-10 in Breast Cancer: A Narrative. *Reports of Biochemistry & Molecular Biology*, **7**: 30–37.

Shimasaki, N., Jain, A., dan Campana, D., 2020. NK cells for cancer immunotherapy. *Nature Reviews Drug Discovery*, **19**: 200–218.

Shu, C., Zheng, X., Wuhafu, A., Cicka, D., Doyle, S., Niu, Q., dkk., 2022. Acquisition of taxane resistance by p53 inactivation in ovarian cancer cells. *Acta Pharmacologica Sinica*, **43**: 2419–2428.

Siokas, V., Aloizou, A.-M., Pateraki, G., Liampas, I., Mitsias, P.D., Bogdanos, D.P., dkk., 2021. Chapter 21 - Toxicology of neurodegenerative diseases, dalam: Tsatsakis, A.M. (Editor), *Toxicological Risk Assessment and Multi-System Health Impacts from Exposure*. Academic Press, hal. 247–258.

Sousa, S., Brion, R., Lintunen, M., Kronqvist, P., Sandholm, J., Mönkkönen, J., dkk., 2015. Human breast cancer cells educate macrophages toward the M2 activation status. *Breast Cancer Research*, **17**: 101.

Strizova, Z., Benesova, I., Bartolini, R., Novysedlak, R., Cecrdlova, E., Foley, L.K., dkk., 2023. M1/M2 macrophages and their overlaps – myth or reality? *Clinical Science*, **137**: 1067–1093.

Su, C.-W., Lin, C.-W., Yang, W.-E., dan Yang, S.-F., 2019. TIMP-3 as a therapeutic target for cancer. *Therapeutic Advances in Medical Oncology*, .

Su, Y., Xu, C., Cheng, W., Zhao, Yanmei, Sui, L., dan Zhao, Yanhong, 2023. Pretreated Mesenchymal Stem Cells and Their Secretome: Enhanced Immunotherapeutic Strategies. *International Journal of Molecular Sciences*, **24**: 1277.

Sui, M., Si, L., Xu, T., dan Cui, M., 2016. Establishment of Specific Cytotoxic T Lymphocyte Culture System and Its Inhibitory Effect on Ovarian Cancer. *Oncology Letters*, **12**: 4087–4093.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Sung, H., Ferlay, J., Siegel, R.L., Laversanne, M., Soerjomataram, I., Jemal, A., dkk., 2021. Global Cancer Statistics 2020: GLOBOCAN Estimates of Incidence and Mortality Worldwide for 36 Cancers in 185 Countries. *CA: A Cancer Journal for Clinicians*, **71**: 209–249.

Suzdaltseva, Yu.G., Burunova, V.V., Vakhrushev, I.V., Cheglakov, I.B., dan Yarygin, K.N., 2008. In vitro comparison of immunological properties of cultured human mesenchymal cells from various sources. *Bulletin of Experimental Biology and Medicine*, **145**: 228–231.

Sylvester, P.W., 2011. Optimization of the Tetrazolium Dye (MTT) Colorimetric Assay for Cellular Growth and Viability, dalam: Satyanarayanajois, S.D. (Editor), *Drug Design and Discovery: Methods and Protocols*. Humana Press, Totowa, NJ, hal. 157–168.

Taherian, M., Bayati, P., dan Mojtabavi, N., 2024. Stem cell-based therapy for fibrotic diseases: mechanisms and pathways. *Stem Cell Research & Therapy*, **15**: 170.

Tang, J., Kang, Y., Zhou, Y., Chen, Q., Lan, J., Liu, X., dkk., 2023. Umbilical cord mesenchymal stem cell-conditioned medium inhibits microglial activation to ameliorate neuroinflammation in amyotrophic lateral sclerosis mice and cell models. *Brain Research Bulletin*, **202**: 110760.

Tang, Y., Zhou, Y., dan Li, H.-J., 2021. Advances in mesenchymal stem cell exosomes: a review. *Stem Cell Research & Therapy*, **12**: 71.

Teixeira, F.G., Carvalho, M.M., Panchalingam, K.M., Rodrigues, A.J., Mendes-Pinheiro, B., Anjo, S., dkk., 2017. Impact of the Secretome of Human Mesenchymal Stem Cells on Brain Structure and Animal Behavior in a Rat Model of Parkinson's Disease. *Stem Cells Translational Medicine*, **6**: 634–646.

Tesco, G. dan Lomoio, S., 2022. Pathophysiology of neurodegenerative diseases: an interplay among axonal transport failure, oxidative stress, and inflammation? *Seminars in immunology*, **59**: 101628.

Tian, L., Liu, H., Zhou, Y., Zhang, C., Bi, Z., dan Wu, T., 2024. Periplaneta americana extract CII-3 triggers cell senescence through activating ROS-p38 MAPK-p53 signaling pathway in SKOV3 cells. *Tissue and Cell*, **91**: 102561.

Tian, X., He, X., Qian, S., Zou, R., Chen, K., Zhu, C., dkk., 2023. Immunoregulatory effects of human amniotic mesenchymal stem cells and their exosomes on human peripheral blood mononuclear cells. *BIOCELL*, **47**: 1085–1093.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Trivanović, D., Mojsilović, S., Ilić, V., Krstić, J., Jauković, A., Okić-Đorđević, I., dkk., 2013. Immunomodulatory capacity of human mesenchymal stem cells isolated from adipose tissue, dental pulp, peripheral blood and umbilical cord Wharton's jelly. *Central European Journal of Immunology*, **4**: 421–429.

Tung, S.-Y., Chang, S.-F., Chou, M.-H., Huang, W.-S., Hsieh, Y.-Y., Shen, C.-H., dkk., 2012. CXC chemokine ligand 12/Stromal cell-derived factor-1 regulates cell adhesion in human colon cancer cells by induction of intercellular adhesion molecule-1. *Journal of Biomedical Science*, **19**: 91.

Vahdanikia, V., Maleki, M., Asl Irani Fam, R., dan Abdi, A., 2022. Assessment the Effect of Human Umbilical Cord Wharton's Jelly Stem Cells on the Expression of Homing Genes; CXCR4 and VLA-4 in Cell Line of Breast Cancer. *International Journal of Hematology-Oncology and Stem Cell Research*, **16**: 110–116.

Vieira, F., De Moraes Rodrigues, J., Da Silva, A., dan Goldberg, A.C., 2019. The Immunomodulatory Potential of Wharton's Jelly Mesenchymal Stem/Stromal Cells. *Stem Cells International*, **2019**: 1–7.

Wang, J., Zhang, Z., Li, Q., Hu, Z., Chen, Y., Chen, H., dkk., 2024. Network pharmacology and molecular docking reveal the mechanisms of curcumin activity against esophageal squamous cell carcinoma. *Frontiers in Pharmacology*, **15**: 1282361.

Wang, S., Chen, Xuyu, Zhang, X., Wen, K., Chen, Xin, Gu, J., dkk., 2024. Pro-apoptotic gene BAX is a pan-cancer predictive biomarker for prognosis and immunotherapy efficacy. *Aging (Albany NY)*, **16**: 11289–11317.

Wang, S.M., Ali, U.H., Sekaran, S.D., dan Thayan, R., 2016. Detection and Quantification of Chikungunya Virus by Real-Time RT-PCR Assay. *Methods in Molecular Biology (Clifton, N.J.)*, **1426**: 105–117.

Widowati, W., Murti, H., Widyastuti, H., Laksmitawati, D.R., Rizal, R., Kusuma, H.S.W., dkk., 2021. Decreased Inhibition of Proliferation and Induction of Apoptosis in Breast Cancer Cell Lines (T47D and MCF7) from Treatment with Conditioned Medium Derived from Hypoxia-Treated Wharton's Jelly MSCs Compared with Normoxia-Treated MSCs. *International Journal of Hematology-Oncology and Stem Cell Research*, .

Widowati, W., Onggowidjaja, P., Sumitro, S.B., Widodo, M.A., Afifah, E., Rihibiha, D.D., dkk., 2019. Effects of Conditioned Medium of Co-Culture IL-2 Induced NK Cells and Human Wharton's Jelly Mesenchymal Stem Cells (hWJMSCs) on Apoptotic Gene Expression in a Breast Cancer Cell Line (MCF-7). *Journal of Mathematical and Fundamental Sciences*, **51**: 205–224.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Widowati, W., Widyastuti, H., Murti, H., Laksmitawati, D.R., Maesaroh, M., Sumitro, S.B., dkk., 2016. WITHDRAWN: Interleukins and VEGF Secretome of Human Wharton's Jelly Mesenchymal Stem Cells-Conditioned Medium (hWJMSCs-CM) in Different Passages and Oxygen Tensions. *Biomarkers and Genomic Medicine*, .

Yasuhara, T., Shingo, T., Kobayashi, K., Takeuchi, A., Yano, A., Muraoka, K., dkk., 2004. Neuroprotective effects of vascular endothelial growth factor (VEGF) upon dopaminergic neurons in a rat model of Parkinson's disease. *European Journal of Neuroscience*, **19**: 1494–1504.

Yi, J., Kellner, V., Joo, H., Chien, N., Patel, S., Chaban, Z., dkk., 2023. Characterizing the consensus residue specificity and surface of BCL-2 binding to BH3 ligands using the Knob-Socket model. *PLOS ONE*, **18**: e0281463.

Yunna, C., Mengru, H., Lei, W., dan Weidong, C., 2020. Macrophage M1/M2 polarization. *European Journal of Pharmacology*, **877**: 173090.

Zavatti, M., Gatti, M., Beretti, F., Palumbo, C., dan Maraldi, T., 2022. Exosomes Derived from Human Amniotic Fluid Mesenchymal Stem Cells Preserve Microglia and Neuron Cells from Aβ. *International Journal of Molecular Sciences*, **23**: 4967.

Zhang, Q., Li, H., Mao, Y., Wang, X., Zhang, X., Yu, X., dkk., 2019. Apoptotic SKOV3 cells stimulate M0 macrophages to differentiate into M2 macrophages and promote the proliferation and migration of ovarian cancer cells by activating the ERK signaling pathway. *International Journal of Molecular Medicine*, .

Zhang, Y., Ma, S., Li, T., Tian, Y., Zhou, H., Wang, H., dkk., 2023. ILC1-derived IFN-γ regulates macrophage activation in colon cancer. *Biology Direct*, **18**: 56.

Zhang, Z., Zhou, B., Zhang, K., Song, Y., Zhang, L., dan Xi, M., 2016. IL-27 suppresses SKOV3 cells proliferation by enhancing STAT3 and inhibiting the Akt signal pathway. *Molecular Immunology*, **78**: 155–163.

Zhdanova, D.Yu., Poltavtseva, R.A., Svirshchevskaya, E.V., dan Bobkova, N.V., 2021. Effect of Intranasal Administration of Multipotent Mesenchymal Stromal Cell Exosomes on Memory of Mice in Alzheimer's Disease Model. *Bulletin of Experimental Biology and Medicine*, **170**: 575–582.

Zhidu, S., Ying, T., Rui, J., dan Chao, Z., 2024. Translational potential of mesenchymal stem cells in regenerative therapies for human diseases: challenges and opportunities. *Stem Cell Research & Therapy*, **15**: 266.

UNIVERSITAS
GADJAH MADA
Aktivitas Antikanker Whartonâ€™s jelly mesenchymal stem cells-derived secretome pada Sel Kanker Ovarium SKOV-3 Kokultur Peripheral Blood Mononuclear Cells
Iis Nur Azizah, drh. Retno Murwanti, M.P., Ph.D.; apt. M. Novrizal Abdi Sahid, M.Eng., Ph.D.
Universitas Gadjah Mada, 2025 | Diunduh dari http://etd.repository.ugm.ac.id/

Zhou, H.-B. dan Zhu, J.-R., 2003. Paclitaxel induces apoptosis in human gastric carcinoma cells. *World Journal of Gastroenterology*, **9**: 442–445.

Zhou, Z., Chen, B., Chen, S., Lin, M., Chen, Y., Jin, S., dkk., 2020. Applications of Network Pharmacology in Traditional Chinese Medicine Research. *Evidence-based Complementary and Alternative Medicine : eCAM*, **2020**: 1646905.

Zohora, F.T., Aliyu, M., dan Saboor-Yaraghi, A.A., 2023. Secretome-based acellular therapy of bone marrow-derived mesenchymal stem cells in degenerative and immunological disorders: A narrative review. *Heliyon*, **9**: e18120.