

Publications

1. Kumar ARK, Low J, Lim J, Myint B, Sun X, Wu L, **Cheng HS**, Yip S, ChengCZM, Manoharan T, Quek YJ, Shou Y, Tian JS, Ng YY, Gascoigne NRJ, Tan NS, Sugimura R, Chia G, Cheung AMS, Yawata M, Tay A (2025) Non-viral, high throughput genetic engineering of primary immune cells using nanostraw-mediated transfection. *Biomaterials* 317: 123079. DOI: [10.1016/j.biomaterials.2024.123079](https://doi.org/10.1016/j.biomaterials.2024.123079).
2. **Cheng HS**, Chua D, Chan ST, Yew, KC, Wong SH, Tan NS (2024) MegaMASLD: An interactive platform for exploring stratified transcriptomic signatures in MASLD progression. *bioRxiv*. DOI: [10.1101/2024.07.21.603199](https://doi.org/10.1101/2024.07.21.603199).
3. Le Z, Ramos MC, Shou Y, Li RR, **Cheng HS**, Jang CJM, Liu L, Xue C, Li X, Liu H, Lim CT, Tan NS, White AD, Charles CJ, Chen Y, Liu Z, Tay A (2024) Bioactive sucralfate-based microneedles promote wound healing through reprogramming macrophages and protecting endogenous growth factors. *Biomaterials* 311: 122700. DOI: [10.1016/j.biomaterials.2024.122700](https://doi.org/10.1016/j.biomaterials.2024.122700).
4. **Cheng HS***, Chong YK, Lim EKY, Lee XY, Pang QY, Wisna Novera, Marvalim C, Lee JXT, Ang BT, Tang C, Tan NS (2024) Dual p38MAPK and MEK inhibition disrupts adaptive chemoresistance in mesenchymal glioblastoma to temozolomide. *Neuro-Oncology* noae028. DOI: [10.1093/neuonc/noae028](https://doi.org/10.1093/neuonc/noae028). (*co-first, co-corresponding authors)
5. Liao Z, Lim JJH, Lee JXT, Vos MIG, Chua D, Too CB, Cao H, Wang JK, Shou Y, Tay A, Lehti, K, **Cheng HS***, Tay CY, Tan NS (2023) Attenuating epithelial-to-mesenchymal transition in cancer through angiopoietin-like 4 inhibition in a 3D tumor microenvironment model. *Adv Healthc Mater* e2303481. DOI: [10.1002/adhm.202303481](https://doi.org/10.1002/adhm.202303481). (*co-corresponding authors)
6. Low ZS*, Chua D*, **Cheng HS***, Tee R*, Tan WR, Ball C, Sahib NBE, Ng SS, Qu J, Liu Y, Hong H, Cai C, Rao NCL, Wee A, Muthiah MD, Bichler Z, Mickelson B, Kong MS, Tay VSY, Yan Z, Chen J, Ng AS, Yip YS, Vos MIG, Lim DXE, Chittezhath M, Yaligar J, Verma SK, Poptani H, Guan XL, Velan SS, Ali Y, Li L, Tan NS, Wahli W (2024) The LIDPAD mouse model captures the multisystem interactions and extrahepatic complications in MASLD. *Adv Sci*: 240326. DOI: [10.1002/advs.202404326](https://doi.org/10.1002/advs.202404326). (*co-first authors)
7. Liu G, Haw TJ, Starkey MR, Philp AM, Pavlidis S, Ta S, Nalkurthi C, Nair PM, Gomez HM, Hanish I, Hsu ACY, Hortle E, Pickles S, Rojas-Quintero J, Estepar RSJ, Marshall JE, Kim RY, Collison AM, Mattes J, Idrees S, Faiz A, Hansbro NG, Fukui R, Murakami Y, **Cheng HS**, Tan NS, Chotirmall SH, Horvat JC, Foster PS, Oliver BGG, Polverino F, Caramori G, Sohal SS, Bracke KR, Wark PA, Adcock IM, Miyake K, Sin DD, Hansbro PM (2023) TLR7 promotes smoke-induced lung damage through the activity of mast cell tryptase. *Nat Commun* 14: 7349. DOI: [10.1038/s41467-023-42913-z](https://doi.org/10.1038/s41467-023-42913-z).
8. Shou Y, Le Z, **Cheng HS**, Liu Q, Ng YZ, Becker DL, Li X, Liu L, Xue C, Yeo NJY, Tan R, Low J, Kumar ARK, Wu KZ, Li H, Cheung C, Lim CT, Tan NS, Chen Y, Liu Z, Tay A (2023) Mechano-activated cell therapy for accelerated diabetic wound healing. *Adv. Mater.* e2304638. DOI: [10.1002/adma.202304638](https://doi.org/10.1002/adma.202304638).
9. Lee JXT, Tan WR, Low ZS, Lee JQ, Chua D, Yeo WDC, See B, Vos MIG, Yasuda T, Nomura S, **Cheng HS***, Tan NS* (2023) YWHAG deficiency disrupts the EMT-associated network to induce oxidative cell death and prevent metastasis. *Adv. Sci.* e2301714. DOI: [10.1002/advs.202301714](https://doi.org/10.1002/advs.202301714). (*co-corresponding authors)
10. **Cheng HS**, Tan SP, Wong DMK, Koo WLY, Wong SH, Tan NS (2023) The blood microbiome and health: Current evidence, controversies, and challenges. *Int. J. Mol. Sci.* 24: 5633. DOI: [10.3390/ijms24065633](https://doi.org/10.3390/ijms24065633).
11. Goh BH, **Cheng HS**, Tracy P, Ting K-N, Palanisamy UD, Tan JBL (2023) Geraniin ameliorates hypertensive vascular remodelling in a diet-induced obese animal model through antioxidant and anti-inflammatory effects. *Nutrients* 15: 2696. DOI: [10.3390/nu15122696](https://doi.org/10.3390/nu15122696).
12. Low ZS*, Chua D*, **Cheng HS***, Tee R*, Tan WR, Ball C, Sahib NBE, Ng SS, Qu J, Liu Y, Hong H, Cai C, Rao NCL, Wee A, Muthiah MD, Bichler Z, Mickelson B, Lee JQ, Kong MS, Tay VSY, Yan Z, Chen J, Ng

- AS, Yip YS, Vos MIG, Lim DXE, Chittechath M, Yaligar J, Verma SK, Poptani H, Guan XL, Velan SS, Ali Y, Li L, Tan NS, Wahli W (2023) Angiopoietin-like 4 shapes the intrahepatic T-cell landscape via eIF2 α signaling during steatohepatitis in diet-induced NAFLD. *bioRxiv*. DOI: [10.1101/2023.01.10.523354](https://doi.org/10.1101/2023.01.10.523354). (*co-first authors)
13. Koh K, Wang JK, Yuan JCX, Hiew SH, **Cheng HS**, Gabryelczyk B, Vos MIG, Yip YS, Chen L, Sobota RM, Keat DCK, Tan NS, Tay CY, Miserez A (2023) Squid suckerin-spider silk fusion protein hydrogel for delivery of mesenchymal stem cell secretome to chronic wounds. *Advanced Healthcare Materials* 12: 2201900. DOI: [10.1002/adhm.202201900](https://doi.org/10.1002/adhm.202201900).
 14. Chan LLY, Anderson D, **Cheng HS**, Ivan FX, Chen S, Kang AEZ, Foo R, Gamage A, Tiew PY, Koh MS, Lee KCH, Nichol K, Pathinayake P, Yeo TW, Oliver B, Wark P, Liu L, Tan NS, Wang L-F, Chotirmall SH (2022) The establishment of COPD organoids to study host-pathogen interaction reveals enhanced viral fitness of SARS-CoV-2 in bronchi. *Nature Communications* 13: 7635. DOI: [10.1038/s41467-022-35253-x](https://doi.org/10.1038/s41467-022-35253-x).
 15. Narayana JK, Aliberti S, Aogain MM, Jaggi TK, Mohamed Ali NAB, Ivan FX, **Cheng HS**, Yip YS, Vos MIG, Low ZS, Lee JXT, Amati F, Gramegna A, Wong SH, Sung JJY, Tan NS, Tsaneva-Atanasova K, Blasi F, Chotirmall SH (2022) Microbial dysregulation of the gut-lung axis in bronchiectasis. *American Journal of Respiratory and Critical Care Medicine*. DOI: [10.1164/rccm.202205-0893OC](https://doi.org/10.1164/rccm.202205-0893OC).
 16. Pearapan L, Nordin FJ, Siew EL, Kumolosasi E, Mohamad Hanif EA, Masre SF, Eng WC, **Cheng HS**, Rajab NF (2022) A cell-based systematic review on the role of Annexin A1 in triple-negative breast cancers. *Int. J. Mol. Sci.* 23: 8256. DOI: [10.3390/ijms23158256](https://doi.org/10.3390/ijms23158256).
 17. Li L, Aogain MM, Xu T, Jaggi TK, Chan LLY, Qu J, Wei L, Liao S, **Cheng HS**, Keir HR, Dicker AJ, Tan KS, Yun WD, Koh MS, Ong TH, Hou ALY, Abisheganaden J, Low TB, Hassan TM, Long X, Ward PAB, Oliver B, Drautz-Moses DI, Schuster SC, Tan NS, Fang M, Chalmers JD, Chotirmall SH (2022) Neisseria species as pathobionts in bronchiectasis. *Cell Host and Microbe* 30: 1311-1327. DOI: [10.1016/j.chom.2022.08.005](https://doi.org/10.1016/j.chom.2022.08.005).
 18. Wee WKJ, Low ZS, Ooi CK, Henategala BP, Lim ZGR, Yip YS, Gerard Vos MI, Tan WWR, **Cheng HS**, Tan NS (2022) Single-cell analysis of skin immune cells reveals an Angptl4-ifi20b axis that regulates monocyte differentiation during wound healing. *Cell Death and Disease*, 13: 180. DOI: [10.1038/s41419-022-04638-7](https://doi.org/10.1038/s41419-022-04638-7).
 19. **Cheng HS**, Yip YS, Lim, EKY, Wahli W, Tan NS (2021) PPARs and tumor microenvironment: The emerging roles of the metabolic master regulators in tumor stromal-epithelial crosstalk and carcinogenesis. *Cancers*, 13: 2153. DOI: [10.3390/cancers13092153](https://doi.org/10.3390/cancers13092153).
 20. Cao H, **Cheng HS**, Wang JK, Tan NS, Tay CY (2021) A 3D physio-mimetic interpenetrating network-based platform to decode the pro and anti-tumorigenic properties of cancer-associated fibroblasts. *Acta Biomaterialia*, 132: 448-460. DOI: [10.1016/j.actbio.2021.03.037](https://doi.org/10.1016/j.actbio.2021.03.037).
 21. **Cheng HS**, Marvalim C, Zhu, P, Law CLD, Low ZYJ, Chong YK, Ang BT, Tang C, Tan NS (2021) Kinomic profile in patient-derived glioma cells during hypoxia reveals c-MET-PI3K dependency for adaptation. *Theranostics* 11: 5127-5142. DOI: [10.7150/thno.54741](https://doi.org/10.7150/thno.54741).
 22. Tan MWY, Tan WR, Kong ZQ, Tok JH, Wee WKJ, Teo EML, **Cheng HS**, Wang X, Tan NS (2020) High glucose restraint of acetylcholine-induced keratinocyte epithelial-mesenchymal transition is mitigated by p38 inhibition. *J Invest Dermatol* 141: 1438-1449. DOI: [10.1016/j.jid.2020.10.026](https://doi.org/10.1016/j.jid.2020.10.026).
 23. **Cheng HS**, Goh BH, Phang SCW, Amanullah MM, Ton SH, Palanisamy UD, Abdul Kadir K, Tan JBL (2020) Pleiotropic ameliorative effects of ellagitannin geraniin against metabolic syndrome induced by high-fat diet in rats. *Nutrition* 79-80: 110973. DOI: [10.1016/j.nut.2020.110973](https://doi.org/10.1016/j.nut.2020.110973).
 24. Zhang Y, Liu M, Peng B, Jia S, Koh D, Wang Y, **Cheng HS**, Tan NS, Warth B, Chen D, Fang M (2020) Impact of mixture effects between emerging organic contaminants on cytotoxicity: A systems biological understanding

- of synergism between Tris(1,3-dichloro-2-propyl)phosphate and triphenyl phosphate. *Environ. Sci. Technol.* 54(17) 10722-10734. DOI: [10.1021/acs.est.0c02188](https://doi.org/10.1021/acs.est.0c02188).
25. Tan MWY, Sng MK, **Cheng HS**, Low ZS, Leong BJJ, Chua D, Tan EHP, Chan JSK, Yip YS, Lee YH, Pal M, Wang XM, Wahli W, Tan NS (2020) Deficiency in fibroblast PPAR β/δ reduces non-melanoma skin cancers in mice. *Cell Death Differ.* 27(9): 2668-2680. DOI: [10.1038/s41418-020-0535-y](https://doi.org/10.1038/s41418-020-0535-y).
 26. Phua WWT, Tan WR, Yip YS, Hew ID, Wee JWK, **Cheng HS**, Leow MKS, Wahli W, Tan NS (2020) PPAR β/δ agonism upregulates Forkhead Box A2 to reduce inflammation in C2C12 myoblasts and in skeletal muscle. *Int. J. Mol. Sci.* 21: 1747. DOI: [10.3390/ijms21051747](https://doi.org/10.3390/ijms21051747).
 27. **Cheng HS**, Tan WR, Low ZS, Marvalim C, Lee JYH, Tan NS (2019) Exploration and development of PPAR modulators in health and disease: An update of clinical evidence. *Int. J. Mol. Sci.* 20: 5055. DOI: [10.3390/ijms20205055](https://doi.org/10.3390/ijms20205055).
 28. **Cheng HS**, Lee JXT, Wahli W, Tan NS (2019) Exploiting vulnerabilities of cancer by targeting nuclear receptors of stromal cells in tumor microenvironment. *Mol. Cancer* 18: 51. DOI: [10.1186/s12943-019-0971-9](https://doi.org/10.1186/s12943-019-0971-9)
 29. **Cheng HS**, Phang SCW, Ton SH, Abdul Kadir K, Tan JBL (2019) Purified ingredient-based high-fat diet is superior to chow-based equivalent in the induction of metabolic syndrome. *J. Food Biochem.* 43: e12717. DOI: [10.1111/jfbc.12717](https://doi.org/10.1111/jfbc.12717)
 30. **Cheng HS**, Ton SH, Abdul Kadir K (2017) Ellagitannin geraniin: a review of the natural sources, biosynthesis, pharmacokinetics and biological effects. *Phytochem. Rev.* 16: 743-752. DOI: [10.1007/s11101-016-9464-2](https://doi.org/10.1007/s11101-016-9464-2)
 31. **Cheng HS**, Ton SH, Tan JBL, Abdul Kadir K (2017) The ameliorative effects of a tocotrienol-rich fraction on the AGE-RAGE axis and hypertension in high-fat-diet-fed rats with metabolic syndrome. *Nutrients* 9: 984. DOI: [10.3390/nu9090984](https://doi.org/10.3390/nu9090984)
 32. **Cheng HS**, Ton SH, Phang SCW, Tan JBL, Abdul Kadir K (2017) Increased susceptibility of post-weaning rats on high-fat diet to metabolic syndrome. *J. Adv. Res.* 8: 743-752. DOI: [10.1016/j.jare.2017.10.002](https://doi.org/10.1016/j.jare.2017.10.002)
 33. **Cheng HS**, Ton SH, Abdul Kadir K (2017) Therapeutic agents targeting at AGE-RAGE axis for the treatment of diabetes and cardiovascular disease: A review of clinical evidence. *Clin. Diabetes Res.* 1: 16-34. DOI: [10.36959/647/490](https://doi.org/10.36959/647/490).
 34. **Cheng HS**, Yaw HP, Ton SH, Choy SM, Kong JMXF, Abdul Kadir K (2016) Glycyrrhizic acid prevents high calorie diet-induced metabolic aberrations despite the suppression of peroxisome proliferator-activated receptor γ expression. *Nutrition*, 9: 995-1001. DOI: [10.1016/j.nut.2016.02.002](https://doi.org/10.1016/j.nut.2016.02.002)
 35. Yaw HP, Ton SH, Amanda S, Kong IGXF, **Cheng HS**, Fernando HA, Chin HF, Abdul Kadir K (2014) Irregularities in glucose metabolism induced by stress and high-calorie diet can be attenuated by glycyrrhizic acid. *Int. J. Physiol. Pathophysiol. Pharmacol.* 6: 172-184.
 36. **Cheng HS**, Kong JMXF, Ng AXH, Chan WK, Ton SH, Abdul Kadir K (2014) Novel inhibitory effects on the accumulation of advanced glycation end product and its receptor expression. *Nat. Prod. Bioprospect.* 4: 325-333. DOI: [10.1007/s13659-014-0044-0](https://doi.org/10.1007/s13659-014-0044-0)

Conference Proceedings

1. Chua D, **Cheng HS**, Tan NS (2024) Targeting the ANGPTL-EIF2A axis improves fibrotic MASH by modulating T cell activation [poster presentation]. *Hepatology* 80: S1515
2. **Cheng HS**, Koo YWL, Vijay EB, Chua D, Wong SH, Tan NS (2024) WED-539 Gut dysbiosis-induced humoral dysregulation in metabolic dysfunction-associated steatotic liver disease [poster presentation]. *J Hepatol*, 80, S280.
3. Chua D, **Cheng HS**, Tan NS (2023) Intestinal Angptl4 perturbs gut barrier function in NAFLD [poster presentation]. *J Hepatol*, 78: S86.

4. Tan NS, Low ZS, Tee R, Bichler Z, Sahib NBE, Ng SS, Kong MS, Tan WR, **Cheng HS**, Zou T, Xing PY, Tan JSYT, Qu , Liu Y, Hong H, Cai C, Rao NCL, Wee A, Muthiah MD, Mickelson B, Tay VSY, Yan Z, Chen J, Yip YS, Lee JYH, Lim D, Chittechath M, Guan XL, Ali Y, Li L, Wahli W (2021) A new physiologically relevant NAFLD mouse model reveals common transcriptomic shifts between mouse and human during disease progression [poster presentation]. *Hepatology*, 74: 1052A-1053A.
5. **Cheng HS**, Ton SH, Tan JBL, Abdul Kadir K (2017) Anti-metabolic syndrome and anti-advanced glycation end product properties of ellagitannin geraniin in rats on high-fat diet. *International Congress of Diabetes and Metabolism* 2017: 139.