Disrupting the transcriptional machinery to combat triple-negative breast cancer

Noord, V.E. van der

Appendix

List of publications

van der Noord V.E., Spil K., Danesi M., Hutten S., Jonkers J., Bouwman P., Vreeswijk M.P.G., Le Dévédec S.E. and van de Water B.. Targeting CDK9 and CDK12 to overcome transcriptional addiction in triple-negative breast cancer. *Manuscript in preparation.*

McLaughlin R.P., **van der Noord V.E.**, He J., Karuntu J., Timmermans A.M., Tadesse S., Long Y. Diab S.A.H., Proost N., van Gerwen B., Siteur B., van de Ven M., Le Dévédec S.E., Martens J.W.M., Wang S., Zhang Y., van de Water B.. Disruption of P-TEFb activity efficiently targets triple-negative breast cancer cells and synergizes with EGFR inhibition*. Manuscript in preparation.*

van der Noord V. E., van der Stel W., Louwerens G., Verhoeven D., Kuiken H.J., Lieftink C., Grandits M., Ecker G.F., Beijersbergen R.L., Bouwman P., Le Dévédec S.E. and van de Water B. 2023. Systematic screening identifies ABCG2 as critical factor underlying synergy of kinase inhibitors with transcriptional CDK inhibitors. *Breast Cancer Research*, *25*(1), p.51.

van der Noord V. E., van de Water B., and Le Dévédec S.E. 2022. Targeting the heterogeneous genomic landscape in triple-negative breast cancer through inhibitors of the transcriptional machinery. *Cancers*, *14*(18), p.4353.

van der Noord V. E., McLaughlin R. P., Smid M., Foekens J. A., Martens J.W., Zhang Y., & Van de Water B. 2019. An increased cell cycle gene network determines MEK and Akt inhibitor double resistance in triple-negative breast cancer. *Scientific Reports*, *9*(1), 13308.

Bergonzini C., Gregori A., Hagens T.M., **van der Noord V.E.**, van de Water B., Zweemer A.J., Coban B., Capula M., Mantini G., Botto A. and Finamore F., 2024. ABCB1 overexpression through locus amplification represents an actionable target to combat paclitaxel resistance in pancreatic cancer cells. *Journal of Experimental & Clinical Cancer Research*, *43*(1), p.4.

Liu Q., Liu N., **van der Noord V.**, van der Stel W., van de Water B., Danen E.H. and Le Dévédec S.E., 2023. Differential response of luminal and basal breast cancer cells to acute and chronic hypoxia. *Breast Cancer Research and Treatment*, *198*(3), pp.583-596.

Liu Q., van der Stel W., **van der Noord V.E**., Leegwater H., Coban B., Elbertse K., Pruijs J.T., Béquignon O.J., van Westen G., Le Dévédec S.E. and Danen E.H., 2022. Hypoxia triggers TAZ phosphorylation in basal A triple negative breast cancer cells. *International journal of molecular sciences*, *23*(17), p.10119.

Koenders S.T., Wijaya L.S., Erkelens M.N., Bakker A.T., **van der Noord V.E.**, van Rooden E.J., Burggraaff L., Putter P.C., Botter E., Wals K. and van den Elst H., 2019. Development of a retinal-based probe for the profiling of retinaldehyde dehydrogenases in cancer cells. *ACS Central Science*, *5*(12), pp.1965-1974.

He J., McLaughlin R.P., **van der Noord V.E.,** Foekens J.A., Martens J.W., van Westen G., Zhang Y. and Van de Water B., 2019. Multi-targeted kinase inhibition alleviates mTOR inhibitor resistance in triple-negative breast cancer. *Breast Cancer Research and Treatment*, *178*, pp.263-274.

McLaughlin R. P., He J., **van der Noord V. E.**, Redel J., Foekens J. A., Martens J. W., Smid M., Zhang Y. and van de Water B, 2019. A kinase inhibitor screen identifies a dual cdc7/CDK9 inhibitor to sensitise triple-negative breast cancer to EGFR-targeted therapy. *Breast Cancer Research*, *21*, pp.1-15.

Santegoets S.J.A.M., de Groot A.F., Dijkgraaf, E.M., Simões, A.C., **van der Noord V.E.**, van Ham J.J., Welters M.J.P., Kroep J.R. and van der Burg S.H., 2018. The blood mMDSC to DC ratio is a sensitive and easy to assess independent predictive factor for epithelial ovarian cancer survival. *Oncoimmunology*, *7*(8), p.e1465166.

Appendix

About the author

Vera van der Noord was born on the 10th of March 1994, in Woerden, the Netherlands. After obtaining her VWO diploma at Minkema College (Woerden), she started the bachelor's program in Bio-Pharmaceutical Sciences at Leiden University in 2012. During her bachelor's, she undertook a 10-week internship at the Leiden Academic Center for Drug Research in the group of Prof. Dr. Bob van de Water within the division of Drug Discovery and Safety (then named the division of Toxicology). There, under the supervision of Dr. Ronan McLaughlin, she investigated the role of autophagy in drug resistance of triple-negative breast cancer. Additionally, she successfully completed the university's extracurricular Honours College program.

Upon obtaining her bachelor's degree (cum laude) in 2015, she continued with the master's program in Bio-Pharmaceutical Sciences at Leiden University. During her master's, she conducted a 9-month research project under the supervision of Dr. Yinghui Zhang, also within the division of Drug Discovery and Safety. In this project, she explored potential new drug targets, including MEK and Akt, for the treatment of triple-negative breast cancer and contributed to research involving 3D models of triple-negative breast cancer cell lines. Subsequently, she worked as a student assistant for 5 months in this group to further continue with this research. After that, she performed her second 6-month research project at the department of Clinical Oncology of the Leiden University Medical Center (LUMC), led by Prof. Dr. Sjoerd van der Burg, under the supervision of Dr. Saskia Santegoets. Within this project, she investigated the suppression of T cells by myeloid-derived suppressor cells and regulatory T cells in the context of ovarian cancer and head & neck squamous cell carcinoma. Moreover, she successfully completed the extracurricular Leiden Leadership Program during her master's program.

After graduating the master's (cum laude) in 2017, she returned to the division of Drug Discovery and Safety at the LACDR to start her PhD project, supervised by Prof. Dr. Bob van de Water and Dr. Sylvia Le Dévédec. This project focused on exploring new targets for the treatment of triple-negative breast cancer, particularly "transcription-associated" cyclin-dependent kinases. Currently, the division has received funding from the Dutch Cancer Society (KWF) for the further continuation of this research, on which she is now working as a postdoctoral researcher.