



Universiteit
Leiden
The Netherlands

Pathogenesis of congenital cytomegalovirus infection : finding prognostic markers and correlates of protection

Rovito, R.

Citation

Rovito, R. (2018, October 16). *Pathogenesis of congenital cytomegalovirus infection : finding prognostic markers and correlates of protection*. Retrieved from <https://hdl.handle.net/1887/66319>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/66319>

Note: To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/66319> holds various files of this Leiden University dissertation.

Author: Rovito, R.

Title: esis of congenital cytomegalovirus infection : finding prognostic markers and correlates of protection

Issue Date: 2018-10-16

LIST OF PUBLICATIONS

Roberta Rovito, Hans-Jörg Warnatz, Szymon M. Kielbasa, Hailiang Mei, Vyacheslav Amstislavskiy, Ramon Arens, Marie-Laure Yaspo, Hans Lehrach, Aloys C.M. Kroes, Jelle J. Goeman* and Ann C.T.M Vossen*. * Shared last authorship. **Impact of Congenital Cytomegalovirus infection on transcriptomes from archived dried blood spots in relation to long-term clinical outcome.** *PLoS One.* 2018 Jul 19;13(7):e0200652.

Roberta Rovito, Frans H.J. Claas, Geert W. Haasnoot, Dave L. Roelen, Aloys C.M. Kroes, Ann C.T.M. Vossen. **Maternal and child human leukocyte antigens in congenital cytomegalovirus infection.** *J Reprod Immunol* 2018 126:39-45

Roberta Rovito, Frans H.J. Claas, Geert W. Haasnoot, Dave L. Roelen, Aloys C.M. Kroes, Michael Eikmans, Ann C.T.M Vossen. **Congenital Cytomegalovirus Infection: Maternal-Child HLA-C, HLA-E, and HLA-G Affect Clinical Outcome.** *Front Immunol* 2018 8:1904

Roberta Rovito, Marjolein J. Korndewal, Peter C.J.I. Schielen, Aloys C.M. Kroes, Ann C.T.M Vossen. **Neonatal screening parameters in infants with congenital Cytomegalovirus infection.** *Clin Chim Acta* 2017 473:191-197

Roberta Rovito, Marjolein J. Korndewal, Menno C. van Zelm, Dimitrios Ziagos, Els Wessels, Mirjam van der Burg, Aloys C.M. Kroes, Anton W. Langerak, Ann C.T.M Vossen. **T and B Cell Markers in Dried Blood Spots of Neonates with Congenital Cytomegalovirus Infection: B Cell Numbers at Birth Are Associated with Long-Term Outcomes.** *J Immunol* 2017 198(1):102-109

Donalisio M, Nana HM, Ngane RA, Gatsing D, Tchinda AT, **Rovito R**, Cagno V, Cagliero C, Boyom FF, Rubiolo P, Bicchi C, Lembo D. **In vitro anti-Herpes simplex virus activity of crude extract of the roots of Nauclea latifolia Smith (Rubiaceae).** *BMC Complement Altern Med.* 2013 Oct 16;13:266.



ACKNOWLEDGEMENTS

Hereby I would like to acknowledge those people that contributed, in different ways, to the completion of the research presented in this thesis and to my PhD journey.

First of all, I would like to express my deep gratitude to my supervisor Dr. A.C.T.M. Vossen and my promoter Prof. dr. A.C.M. Kroes for introducing me to the clinical world, and for supporting me with continuous motivation and enthusiasm. It is commonly known, I would say worldwide, that every PhD student is preoccupied with the fear of *not making it*, which is daily transmitted to the supervisors. However, I have to admit that sometimes I made it harder for you as I was transforming such fear into some original Italian dramas, but you were always there. In the end, I made it, super on time, thank you.

I would like to thank the reading committee members for their time and their positive feedback: Prof. dr. E. Lopriore, Prof. dr. B.A.M. van der Zeijst, Prof. dr. R.A.W. van Lier, Prof. dr. D. van Baarle.

Thanks to all the ladies of the congenital CMV group, Marjolein, Fleurtje, Jutte, Anne Marie, Lisette and Eline, for the constructive feedback and for the delicious sweets that were always accompanying our meetings.

I would also like to acknowledge all the scientists of the VacTrain network from whom I learnt a lot, in particular to Hans-Jörg for his precious support in the transcriptomic project. Special thanks go to all fellows of VacTrain for the nice time spent together in trainings, achievements and fun: Eleni, Ilona, Esther, Praneeth, Mariateresa, Benedict, Claudia, Ioanna, Roshan and Abhijeet.

Now is time to acknowledge all the colleagues of the Medical Microbiology Department, which is a rather complicated task. Indeed, being sort of *mixed* PhD I had the pleasure to know all of you, both from the clinical and the research section (so close, yet so different worlds!). This makes harder not to forget anyone, so thank to all of you. In particular, I would like to express my deep and sincere gratitude to Sjaak, Ali, Tim, Robert, Ien, Ineke, Wouter, Sophie G., Wendy, Henk, Florine, Els W., and Hendrik who, in different ways and in different time, supported me at work and outside work, making me feel always welcome, thank you.

I would like to thank also the colleagues from the Immunohematology and Blood Transfusion Department with whom I had the pleasure to collaborate. Thank you Frans C. for your time and always inspiring discussions, and thank you Geert for your endless statistical support, as well as Dave, Michael, Monica, Pieter, Anke and Ramon, I have learnt a lot in Immunology. Additionally, many thanks to the colleagues that supported in the transcriptomic project: Jelle, Szymon and Leon.

Special thanks go to all colleagues with whom I shared the office: Irina, Daniel, Kathleen, Sander, Els, and Natacha. For obvious reasons, Kristina, Leonie, Ana, Ilse, Annemieke and Nadia, I like to include



you as well. Though the required silence for a fully productive work day could vary according to the proportion of Mediterranean girls present in the office, I deeply thank all of you for having created such a great, supportive and friendly environment that certainly contributed to make it till the end of my PhD. Not to talk about all that delicious food we used to stuff the office with, and that the whole Department envied us.

Eleni, Kristina, Irina, and Georgios (G.T.B.F.T.R.), you will always be by far the most important people, those that, without any doubt, I define as family in The Netherlands. You were always there, genuinely happy for all my successes and genuinely supportive in all my darkest moments. I truly love you and I truly wish you all the best from life.

Ron, I am honoured of having met you and having had the opportunity to spend time together. I deeply appreciate what you taught me, both in statistics and in life. Always a discrete, elegant and, most importantly, inspirational presence. Thank you.

If no side effects were present at the end of the PhD journey, many thanks are owed as well to Bruna, Alexia, Zhenia, Marteen, Erle, Carlo, and Renauld. In addition, thank you Ino and Francis for accepting me as part of your kick-boxing family and for making me a better fighter - I will always keep the Dutch style.

Thank you Thomas for your discrete, yet so powerful, presence in the super last part of this journey. Your genuine understanding, honest advice, and your unconditional care, always in rock 'n roll beats, were essential to get the last sprint.

Last but not least, thank you Daniela, sister, best friend and great companion of adventures. Despite the difficulties in being in two different countries, thank you for the long days and nights spent in helping me getting over my tough moments, for always believing in me even when everything felt wrong. Thank you parents, Antonella and Alberto, for your emotional and practical support, and for the education you have given me that made me the person I am today. Vi voglio bene.



CV

Roberta Rovito was born on the 8th of January 1988 in Turin, Italy. In 2007 she graduated from high school at the Istituto Liceo Scientifico Nicolo' Copernico in Turin. She then studied Medical Biotechnology at the Molecular Biotechnology Center from the University of Turin, where she graduated as B.Sc. in 2010. She obtained her M.Sc. degree in Medical Biotechnology in 2012 from the Medicine and Surgery University of Turin. During the Bachelor and Master she undertook an internship in the Molecular Virology Laboratory of the San Luigi Gonzaga Hospital Orbassano in Turin, under the supervision of Professor David Lembo. The goal of such internship was to find antivirals against several viruses such as HSV-1, HSV-2 and HCMV, and evaluate their mode of action. This research led to a scientific publication.

In 2013 she got awarded with a Marie-Curie scholarship and became a fellow in VacTrain (Training network for the next generation vaccinologists), a research network funded by the 7th Framework People Programme of the European Commission. In this context, she pursued her PhD studies at Leiden University Medical Center, The Netherlands, in the Department of Medical Microbiology under the supervision of Dr. A.C.T.M. Vossen. The aim of the project was to find prognostic markers and correlates of protection in the congenital Cytomegalovirus infection. The results of her research are published in various scientific journals and are included in this thesis.

