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Promotoren :**Prof. Dr. Karin Vanderkerken**

Department of Hematology and Immunology
Vrije Universiteit Brussel

Prof. Dr. Els Van Valckenborgh

Department of Hematology and Immunology
Vrije Universiteit Brussel

PhD in Medical Sciences
2015-2016

INVITATION to the Public defence of

Susanne LUB

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

The role of E3 ubiquitin ligases with a focus on the inhibitor of apoptosis proteins (IAPs) and the anaphase-promoting complex/cyclosome (APC/C) in multiple myeloma**Thursday 1 September 2016**

Auditorium **Brouwer**, 16:00
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

<http://www.vub.ac.be/english/infoabout/campuses>



Summary of the dissertation

Multiple myeloma (MM) is a plasma cell malignancy characterized by the accumulation of plasma cells in the BM. The use of novel agents such as the proteasome inhibitor bortezomib in the treatment of MM has significantly increased the survival of MM patients. The success of bortezomib highlights the importance of the ubiquitin-proteasome system (UPS) in MM. The UPS regulates protein turnover and plays a key role in several cellular processes such as apoptosis, cell cycle progression, cell proliferation and DNA replication. Unfortunately, MM remains an incurable disease for the majority of patients with significant resistance to therapy including bortezomib. To overcome resistance and reduce side effects to bortezomib, selectively targeting more disease specific components of the UPS might be more effective. A valuable option could be E3 ubiquitin ligases since they are key players in the UPS by determining which proteins are targeted for destruction. The aim of this study was to investigate two different E3 ubiquitin ligases, the inhibitor of apoptosis proteins (IAPs) and the anaphase promoting complex/cyclosome (APC/C) as potential new targets in the treatment of MM.

This work contributed to a better understanding of the role of the UPS, more specifically E3 ubiquitin ligases, in MM and could lead to the discovery of novel treatment options for MM patients.

Curriculum Vitae

Susanne Lub (° Steenwijk, 10-03-1988) studied biomedical sciences at the Vrije Universiteit Brussel. In 2011, she performed her master thesis at the laboratory of Hematology and Immunology at the Vrije Universiteit Brussel under the supervision of Prof. Dr. Karin Vanderkerken and Prof. Dr. Els Van Valckenborgh and investigated bortezomib resistance in multiple myeloma. She obtained her master degree with great distinction and continued her research on multiple myeloma in this laboratory with a FWO PhD fellowship. She participated in the OVER-MyR project which was funded by the European Commission. Her work was focused on E3 ubiquitin ligases as potential new targets in multiple myeloma and resulted in several peer-reviewed research publications and one review article. In November 2015 Susanne started working as a Medical Science Liaison Hematology at Janssen-Cilag where she has the opportunity to make novel agents available for multiple myeloma patients in Belgium.