

University of Groningen

Reversible Suppression of Hemostasis in Hibernation and Hypothermia

de Vrij, Edwin

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

de Vrij, E. (2019). *Reversible Suppression of Hemostasis in Hibernation and Hypothermia*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Reversible Suppression of Hemostasis in Hibernation and Hypothermia

Edwin L. de Vrij

1. Reduction of circulating blood platelet number during torpor is fully reversed during arousal; both reduction and recovery during hibernation are temperature dependent. *(this thesis)*
2. Hemostasis is suppressed during hibernation through inhibition of both primary and secondary hemostasis while maintaining fibrinolytic potential. *(this thesis)*
3. Reversible temperature dependent thrombocytopenia is conferred by storage and release of platelets in liver sinusoids via margination to the endothelium. *(this thesis)*
4. The omnipresence of reversible temperature dependent reduction of platelet count in both hibernating and non-hibernating species seemingly represents a common evolutionary mechanism to suppress primary hemostasis. *(this thesis)*
5. Platelet storage/release in spleen and megakaryocyte rupture do not contribute importantly in reversal of torpor or cold induced thrombocytopenia. *(this thesis)*
6. It is possible to induce major morphological changes to platelets without platelet activation by altering temperature. *(this thesis)*
7. Light-, fluorescence- and electron-microscopy are good techniques to demonstrate reversible platelet shape and intracellular cytoskeletal changes by temperature in four dimensions. *(this thesis)*
8. When ordering a vodka martini, the James Bond movie character voices the perfect technique to handle a microtiter plate for aggregometry: shaken, not stirred.
9. In science, seeing is believing.
10. Even the smallest can change the course of the future. *(Galadriel to Frodo from J.R.R. Tolkien, The Fellowship of the Ring)*
11. Ik ben niet méér arts dan wetenschapper, ik ben één en dezelfde.
12. Obtaining an MD or a PhD is like life, the journey matters more than its destination.
13. Every child is an artist. The problem is how to remain an artist once we grow up. *(Pablo Picasso)*
14. Don't only practice your art, but force your way into its secrets, for it and knowledge can raise men to the divine. *(Ludwig van Beethoven)*