

TABLE OF CONTENTS

1. INTRODUCTION.....	1
1.1. Host parasite interactions	1
1.1.1. Phylum Euglenozoa	2
1.1.2. Phylum Alveolata, subphylum Apicomplexa	10
1.1.3. Phylum Nemathelminthes	13
1.2. Polymorphonuclear neutrophils (PMN) and PMN-derived innate immune responses.....	15
1.2.1. PMN recruitment cascade.....	16
1.2.2. Microbicide activity of PMN.....	17
1.2.3. Neutrophil extracellular traps (NETs).....	19
1.2.4. Role of ATP purinergic signaling in NET formation	22
1.3. Parasite-induced NET formation	23
2. ORIGINAL PUBLICATIONS.....	26
2.1. <i>Trypanosoma brucei brucei</i> induces polymorphonuclear neutrophil activation and neutrophil extracellular traps release.....	26
2.2. Canine <i>Angiostrongylus vasorum</i>-induced early innate immune reactions based on NETs formation and canine vascular endothelial cell activation in vitro	42
2.3. Histone H2A and bovine neutrophil extracellular traps induce damage of <i>Besnoitia besnoiti</i>-infected host endothelial cells but fail to affect total parasite proliferation	61
2.4. <i>Neospora caninum</i>-induced NETosis in canine colostral polymorphonuclear neutrophils.....	81
2.5. <i>Trypanosoma brucei brucei</i>-induced aggregated NETs (aggNETS) are dependent on purinergic receptors P2X1 and P2Y6.....	89
2.6. <i>Sarcoptes scabiei</i> soluble antigen increases intracellular calcium concentration, ROS production and evokes weak NET release in bovine polymorphonuclear neutrophils.....	121
3. DISCUSSION	152
4. ZUSAMMENFASSUNG.....	164
5. SUMMARY	167
6. REFERENCES.....	169
7. ACKNOWLEDGMENTS.....	189
8. DECLARATION	190
9. FUNDING.....	191