

## **Summary**

The topic of this diploma thesis is chemotherapy induced peripheral neuropathy. The first part is concerned with etiology, symptoms and diagnostics of peripheral neuropathy.

The second part consists of a description of the most common antineoplastic drugs causing peripheral neuropathy. Different in vivo and in vitro models that are used in laboratory research to demonstrate the occurrence of peripheral neuropathy are discussed.

In the practical part, an experiment is described that was designed to evaluate whether the strain of CD1 mice can be a useful animal model to study chemotherapy induced peripheral neuropathy. Results of this experiment indicate that after 6 weeks of administration of cisplatin, paclitaxel and bortezomib, evidence of damage to the peripheral nervous system can be detected using neurobehavioral and neurophysiological tests.

The final section includes information about current research in prevention and management of chemotherapy induced peripheral neuropathy. Latest recommendations for prevention and therapy of peripheral neuropathy in oncological patients are given.