



Universität
Basel

Research Project

Investigating the Neuromuscular Involvement in Cachexia: Identifying Novel Target Genes and Therapeutic Targets

Third-party funded project

Project title Investigating the Neuromuscular Involvement in Cachexia: Identifying Novel Target Genes and Therapeutic Targets

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Organisation / Research unit

Departement Biozentrum / Growth & Development (Handschin)

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Status Completed

Cancer cachexia is a severe and prevalent condition that affects up to 80% of cancer patients and causes muscle wasting and weakness, leading to frailty and reduced tolerance to cancer treatments. Despite its significant contribution to cancer-related morbidity and mortality, there are currently no effective treatment strategies to ameliorate cachexia. This highlights the need for further research to understand the mechanisms behind cachexia development. Recent studies indicate that changes in the connection between the nervous system and muscles, called the neuromuscular junction (NMJ), play a crucial role in developing cachexia. However, the specific mechanisms behind these alterations and how they mediate muscle wasting are not understood.

The primary goal of this project is to use state-of-the-art techniques to investigate NMJs in both cachexia-susceptible and -protected muscles in mouse models of cachexia. Revealing the differences in different muscle types will provide novel information about the underlying causes of cachexia. Furthermore, we aim to genetically manipulate the factors revealed in this study to restore muscle wasting in mice with cancer. By this means, new potential therapeutic targets for treating cachexia will be identified. Ultimately, this research project aims to decipher the underlying neuromuscular causes of cancer cachexia and identify new treatment options that may enhance the quality of life and survival of cancer patients.

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