Universität Basel

Research Project

MDA ID68442 Amelioration of muscle atrophy and Duchenne muscular dystrophy

Third-party funded project

Project title MDA ID68442 Amelioration of muscle atrophy and Duchenne muscular dystrophy
Principal Investigator(s) Handschin, Christoph ;
Project Members Handschin, Christoph ;
Organisation / Research unit
Departement Biomedizin / Experimental Pharmacology
Departement Biozentrum / Growth & Development (Handschin)
Department
Project start 01.01.2008
Probable end 31.12.2010
Status Completed

We plan to dissect the molecular mechanisms underlying the observations that the peroxisome proliferator-activated receptor gamma coactivator 1alpha (PGC-1alpha) prevents muscle wasting and fiber damage. New ways to modulate PGC-1alpha function in skeletal muscle will be found by combining in vitro experiments with the study of cultured primary muscle cells (muscle stem cells). The data will be verified and expanded in different animal models in vivo. Briefly, we will first investigate the physiological role of PGC-1alpha in muscle biology. Second, we will elucidate the consequences of PGC-1alpha dysregulation in skeletal muscle by reducing PGC-1alpha levels in mice and in tissue culture. Third, we will study the proteins that interact with PGC-1alpha and the genes regulated by PGC-1alpha which contribute to the PGC-1alpha-mediated resistance towards disuse-induced muscle atrophy. Fourth, we will examine PGC-1alpha in context of neuromuscular junction regulation and muscular dystrophies.

Financed by
Foundations and Associations

Add publication

Add documents

Specify cooperation partners