

The aim of the project „Unique class of slow muscle fibers during the grass snake (*Natrix natrix* L.) myogenesis” is analysis of lipid droplet-rich muscles during their development. Planned studies assumes detailed research of lipid droplets during slow/red muscles differentiation. Furthermore, composition, dynamic and lipid droplet coat proteins will be studied. Obtain data will be useful for to define their function.

The characteristic way of locomotion of snakes could be a result of unique features of trunk muscles development. The project assumes detailed analysis of myotomal muscles differentiation with the special focus on lipid droplet-rich muscle fibers which are adaptive feature to environmental conditions as a source of energy during hibernation. The composition, dynamic and selected lipid droplet coat proteins will be studied.

To obtain mentioned results a number of methods will be used. The structure and ultrastructure of lipid droplet-rich muscle fibers will be analyzed in light microscope and transmission electron microscope. Furthermore, immunocytochemical, Western blot, RT-PCR, gas chromatography with mass spectrometry methods will be used, what allows to investigate the lipid droplet during embryonic development in detail.