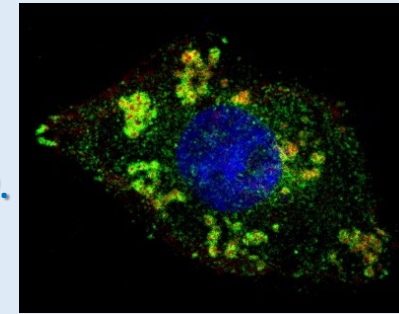
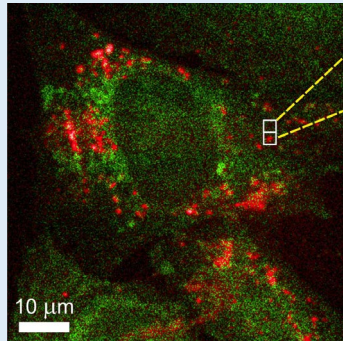




Study of oxidative stress and antioxidant therapy at the cellular level

Supervisor - prof. RNDr. Marie Hubálek Kalbáčová, Ph.D.

Institute of pathological physiology, 1st Medical Faculty,
Charles University
U Nemocnice 5, Praha 2



Oxidative stress occurs in the body under various physiological and pathological conditions. The natural cellular defenses can be enhanced by newly developed nanomedicines - cerium nanoparticles that act as radical-scavenging nanozymes. These nanoparticles will be delivered into cells using carriers that will actively respond to sites in the cell with high concentrations of radicals. This nanomedicine is and will be developed with CEITEC partners (and supported by a GAČR grant).

The main objective of this thesis is biological tests of the prepared nanozymes and their carriers. Fibroblasts and brain endothelial cells will be used as model cells, as this is a stroke model.

Basic molecular biological and biochemical methods, cell culture, fluorescence microscopy and flow cytometry will be used to achieve the objectives.

