

DESCRIPTION FOR THE GENERAL PUBLIC

The aim of the project is to investigate the mechanisms of interaction between selected chelate complexes of transition metals with nitroxyl (HNO/NO^-). These small molecules are members of the group of Reactive Nitrogen Species (RNS) responsible for many important physiological functions. Although nitroxyl plays important biological functions, the mechanisms of the interactions with this molecule are still poorly understood.

It is postulated that interaction between HNO and redox active transition metal complexes may lead to redox reactions and change the activity of HNO/NO^- (e.g. HNO oxidation and release of ^1NO). The planned studies are expected to develop and complement the available information on the reactivity and mechanisms of interaction of this very interesting system. Results of these studies can provide answers concerning the influence of the type of transition metal complex, the effect of pH, and the presence of atmospheric oxygen in the systems, on the mechanism of interaction with HNO/NO^- . The most important part of this project including the reactions carried out under physiological conditions that can be very useful in the context of understanding the pathways of nitroxyl interactions in biological systems.