

ABSTRACT

Peroxisomes are small eucaryotic organelles, mainly known for their ability to create and break down hydrogen peroxide. However their enzymes play other significant roles, they participate in beta-oxidation of fatty acids with very long or branched chains, through alpha-oxidation they enable to process molecules that cannot go through beta-oxidation cycle, they also participate in early steps of synthesis of ether-lipid or bile acids. Above mentioned aspects make peroxisomes potentially interesting for their possible influence on heart muscle metabolism, that is dependent on oxidative degradation of fatty acids, although not very much is known about this issue. The thesis focuses on biogenesis and function of peroxisomes, but also on their possible role in heart muscle metabolism.