In this issue

Myosin light chain-2 and cardiac disorders

The protein myosin is a key element in the construction of muscle fibres. The light-chain component, which is phosphorylated/dephosphorylated (MLC2) plays an important role in the formation of acto-myosin complex and in force generation in the muscle. Interestingly, there is an increase in MLC2 levels during myocardial hypertrophy in rats and humans. In order to explore the connections between pathology, physiology and biochemistry of cardiac anomalies Kannan *et al.* (**page 819**) report a study of MLC2 levels in tissue samples from patients with a wide variety of cardiac disorders. They demonstrate increased expressions of MLC2 genes in tissue samples from patients with cardiac defects, collected during surgical correction, as compared to 'normal samples' from victims of traffic accidents. The availability of the sequence of human cardiac MLC2 prompted a prediction of the three-dimensional structure and an attempt to identify the phosphorylation site. Such models must of course await experimental verification. The outcome promises to be interesting.

P. B.

Binding metals. Learning from microbes

Selective complexation of metals has been a long-standing challenge for inorganic chemists. While it is no secret that biological systems do this very effectively, an understanding of the coordination sites and geometries available in the naturally occurring systems is not always available. An alternate approach to the problem is typified by a paper in this issue by H. J. Macordick *et al.* (**page 834**). The ability of mycobacterial siderophores to complex thorium has been examined using UV spectrophotometry and hydrolytic dissociation measurements using ^{228}Th. Based on previous studies with Fe and molecular-site modelling, the authors rationalize the lower binding constant of thorium. Such studies will hopefully allow one to design siderophores for metal ions and enable the use of microorganisms in metal extraction and radwaste treatment. However, the observation that whole-cell biomass is more resistant to desorption of thorium is a solemn reminder that *in vivo* conditions are even more complex and that extrapolations could be dangerous!

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