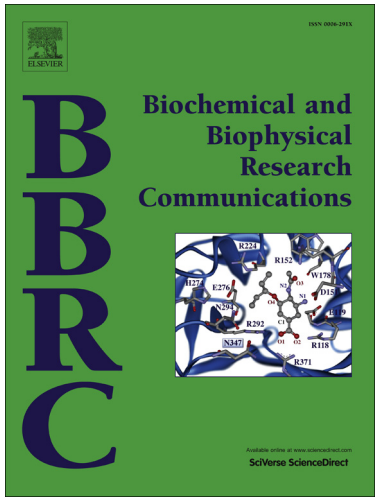

Cyanide does more to inhibit heme enzymes, than merely serving as an active-site ligand

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Cyanide does more to inhibit heme enzymes, than merely serving as an active-site ligand

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ABSTRACT: The toxicity of cyanide is hitherto attributed to its ability to bind to heme proteins' active site and thereby inhibit their activity. It is shown herein that the long-held interpretation is inadequate to explain several observations in heme-enzyme reaction systems. Generation of cyanide-based diffusible radicals in heme-enzyme reaction milieu could shunt electron transfers (by non-active site processes), and thus be detrimental to the efficiency of oxidative outcomes.