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胞内金属形态转化及与生物质相互作用研究

金属在生命过程中扮演着重要的角色，研究金属在细胞内的形态转化、迁移及其与金属蛋白的相互作用对理解生命过程及特定疾病的发生发展具有重要意义。近些年来，我们在金属组学领域展开了相关研究工作，一方面为组学研究开发了一系列检测技术：(1) 设计新型毛细管电泳借口与 ICP-MS 联用，研究了胞内中镉离子及纳米银的形态转化；(2) 利用罗丹明 B 和锆金属有机骨架组成的元素-荧光双功能标签，对铜转运蛋白的迁移和重分布进行了示踪和双模式成像；(3) 研究了金属药物Co(tpa)(cur)2 在单细胞水平上的摄入和分布。另一方面，利用金属结合蛋白与特定金属的相互作用，以金属结合蛋白/多肽及噬菌体等为预处理媒介，建立了一系列样品前处理方法，实现了金属离子的选择性分离分析。

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