Articles of Significant Interest in This Issue

The TyrR Protein Interacts with a Novel Site on RpoA To Activate Genes of the TyrR Regulon in *Escherichia coli*

The development of novel strategies allowed Camakaris et al. (e00252-21) to isolate mutants of RpoA (α-subunit of RNA polymerase) that were defective in activation of genes of the TyrR regulon and to subsequently isolate suppressors in TyrR that partially restored activation. These data demonstrated that activation involves protein-protein interaction and helped to identify both the “TyrR-specific determinant” on RpoA and the complementary “activation patch” on the TyrR N-terminal domain, both of which are surface exposed. These studies suggest a model for activation by TyrR that involves three sites on the α subunit of the C-terminal domain, the “TyrR-specific determinant,” the “265 determinant,” and the “261 determinant.”

Iron and Sulfur Acquisition, Trafficking, Deployment, and Storage in Pyrite-Grown Methanogens

Methanogens were recently shown to reductively dissolve mineral pyrite to liberate iron and sulfur for biosynthesis. Payne et al. (e00146-21) investigated the physiology of *Methanococcus voltae* cells grown with pyrite relative to soluble iron and sulfur sources. Pyrite-grown cells were smaller, hyperaccumulated intracellular iron as a thioferrate-like species, and up-expressed proteins involved in ferrous iron transport and sensing and iron storage (IssA). They proposed that iron hyperaccumulation is due to assimilation of ferrous iron complexed with sulfide that is sequestered intracellularly by IssA. These findings provide a template for engineering cells to concentrate key metals of biotechnological and bioenergy importance.