Lactate Racemase and its Novel Nickel-Pincer Nucleotide Cofactor

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Lactate racemase interconverts the L- and D-isomers of lactic acid, a central metabolic intermediate of many cells. The enzyme from Lactobacillus plantarum, LarA, harbors a tethered nickel-pincer nucleotide (NPN) coenzyme derived from niacin. Synthesis of the enzyme-bound cofactor requires LarB, a carboxylase/hydrolase of nicotinic acid adenine dinucleotide (NaAD); LarE, a Mg·ATP-dependent sacrificial sulfur insertase; and LarC, a CTP-dependent nickel insertase or cyclometallase. This seminar will summarize recent studies related to NPN synthesis and function.


Monday, February 3, 2020
4:00pm
Chemistry Building, Room 1220