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Protein Interaction between Selenophosphate Synthetase and IscS

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Abstract:

Selenophosphate synthetase (SelD) catalyzes the production of selenophosphate from selenide and ATP. Selenophosphate is required for synthesis of selenoprotein and 5-methylaminomethyl-2-selenouridine. Cysteine desulfurase IscS, which provides sulfur atoms for Fe-S cluster biosynthesis, has been proposed to be a selenium-delivery protein for selenophosphate biosynthesis. We have found specific interaction between SelD and IscS *in vitro*. SelD inhibited the IscS-mediated reconstitution of Fe-S cluster in ferredoxin. These findings support the proposal that IscS supplies a selenium substrate for SelD through direct protein-protein interaction.

Key words: [Selenium metabolism](#), [Selenophosphate synthetase](#), [Cysteine desulfurase](#), [Protein-protein interaction](#), [Selenophosphate](#)

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