

研究报告

## 西湖沉积物中解磷菌的分离纯化及其解磷能力

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**摘要** 采用有机磷固体培养基和无机磷固体培养基从沉积物中分离出具有解磷能力的菌株, 通过平板划线分离纯化后得到6株磷细菌, 其中2株为有机P细菌(编号为OP<sub>1</sub>、OP<sub>2</sub>), 4株为无机磷细菌(编号分别为NOP<sub>1</sub>、NOP<sub>2</sub>、NOP<sub>3</sub>、NOP<sub>4</sub>)。测定发现, OP<sub>1</sub>、OP<sub>2</sub>和NOP<sub>3</sub>溶磷能力较强, NOP<sub>4</sub>解磷能力较微弱, 而NOP<sub>1</sub>及NOP<sub>2</sub>在分离纯化后失去了解磷能力; 菌株OP<sub>1</sub>及OP<sub>2</sub>具有较强的分解有机磷卵磷脂的能力, 接种OP<sub>1</sub>、OP<sub>2</sub>菌株的培养液中水溶性磷含量分别比对照增加了38.53和64.53倍; 接种NOP<sub>3</sub>菌株的培养液中磷含量比对照增加了54.06倍。

**关键词** [解磷菌](#) [磷](#) [沉积物](#) [确定](#)

分类号

## Isolation, purification, and phosphate-solubilizing capability of phosphorous bacteria in West Lake sediment

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### Abstract

By using solid culture media containing organic and inorganic phosphorus, six strains of phosphorous bacteria in West Lake sediment were isolated and purified, among which, two strains coded as OP<sub>1</sub> and OP<sub>2</sub> could decompose lecithin, and the other four coded as NOP<sub>1</sub>, NOP<sub>2</sub>, NOP<sub>3</sub> and NOP<sub>4</sub> could dissolve inorganic phosphate. OP<sub>1</sub>, OP<sub>2</sub> and NOP<sub>3</sub> had a stronger phosphate-solubilizing capability, followed by NOP<sub>4</sub>, while NOP<sub>1</sub> and NOP<sub>2</sub> lost this capability after isolation and purification. The water-soluble P concentration in the culture media inoculated with OP<sub>1</sub>, OP<sub>2</sub> and NOP<sub>3</sub> increased 38.53, 64.53 and 54.06 fold, respectively, compared with the control.

**Key words** [Phosphate-solubilizing bacteria](#) [Phosphorous](#) [Sediment](#) [West Lake](#)

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