

硒-铁蛋白电化学反应器储存含磷化合物的研究

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由透析袋、硒-铁蛋白、恒流泵、电导仪、磁力搅拌器及电化学系统等构成硒-铁蛋白电化学反应器。该反应器可储存流动水体中微量含磷化合物于铁蛋白的蛋白壳内,其储存量高低与流动水体中的含磷化合物含量成正比关系。经硒改造后的硒-铁蛋白能提高有机磷农药的储存量,其储存能力与铁蛋白种类无关,可能与铁蛋白自身构象有关。

STUDIES ON STORAGE OF COMPOUND CONTAINING PHOSPHORUS FROM ELECTROCHEMICAL REACTOR OF SELENO-FERRITIN

An Electrochemical reactor of seleno-ferritin consisted of oscillating bag, seleno-ferritin, constant-flow pump, conductivity apparatus, magnetic stirrer, and electrochemical system was used to store the micro-compound containing phosphorus from the flowing water in the protein shell of the ferritin. A positive relation between the content of storing phosphorus from the reactor and its concentration in the flowing water was observed. The storing content of organic phosphate in pesticides increased greatly after the protein was modified by selenous acid. This storing capacity was independent of the kinds of the ferritin, but depended on its conformation.

关键词

硒-铁蛋白(Seleno-ferritin); 生物电化学反应器(Bioelectrochemical reactor); 有机磷农药(Organic phosphate pesticides); 环境监测(Environmental monitor)