



**Purification of *Serratia* sp. phosphatase,  
identification/localisation of the two phosphatase  
isoenzymes and large scale production of the  
enzyme**

*Holger Pflücke*

Download now

[Click here](#) if your download doesn't start automatically

# Purification of *Serratia* sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme

*Holger Pflicke*

## **Purification of *Serratia* sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme** Holger Pflicke

Scholarly Research Paper from the year 2003 in the subject Biology - Micro- and Molecular Biology, grade: 2 (B), Dresden Technical University (Institute for Nutrition and Biological Procedures), language: English, abstract: This study is part of the project "Bioremediation of Nuclear Wastes by Biomineralization Processes" which uses an established biomineralization process (using *Serratia* sp.) for the removal of uranyl ions as hydrogen uranyl phosphate (HUP). HUP will be tested as a host crystal for intercalative ion exchange or co-crystallative removal of problematic nuclide fission products (FP) like  $^{60}\text{Co}$ ,  $^{90}\text{Sr}$  and  $^{137}\text{Cs}$  using "cold" isotopes in Birmingham in parallel to tests in Korea using real wastes. Metal uptake is mediated via a cell-bound phosphatase that liberates inorganic phosphate, which precipitates with heavy metals as cell-bound metal phosphate, thus depositing the uranyl phosphate "host crystal" for the sequestration of the FP. The phosphatase is localised periplasmically and also within the extracellular polymeric matrix (EPM). Successful operation of the process depends on the correct localization of the enzyme into the extracellular matrix. It can be speculated that the periplasmic enzyme pool is a reservoir awaiting export and other studies have suggested the presence of two phosphatase isoenzymes, which differ in their chemical- and radiostability but are not yet assigned to either phosphatase pool or EPM since they are immunologically cross-reactive. The two phosphatases (designated CPI and CPII) are very similar but distinguished simply using cationic (CPII retained) and anionic (CPI retained) ion exchange resins.

This study will concentrate on the production of phosphatase CPI and CPII which will be differentiated by enzyme partial purification (exocellularly-localised and residual whole-cell enzymes) followed by quantification of their cation exchange (CPII) and anion exchange (CPI) resin binding. Large scale biomass preparation for bulk enzyme production for enzyme structural studies (X ray crystallography using the Korean Synchrotron Facility) will use the 600 L facility in the pilot plant in the School of Chemical Engineering University of Birmingham.

The overall objective of the project is to promote the localisation of the more radiostable isoenzyme (CPI) into the exocellular matrix for maximum production of uranyl phosphate in the presence of the high-active nuclide fission products and to understand this radiostability in terms of the associated water in the active site pocket of this novel phosphohydrolase.

 [Download Purification of \*Serratia\* sp. phosphatase, identifi ...pdf](#)

 [Read Online Purification of \*Serratia\* sp. phosphatase, identi ...pdf](#)

## **Download and Read Free Online Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme Holger Pflücke**

---

### **From reader reviews:**

#### **Ray Davis:**

This Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme book is just not ordinary book, you have after that it the world is in your hands. The benefit you receive by reading this book is definitely information inside this guide incredible fresh, you will get details which is getting deeper you actually read a lot of information you will get. This particular Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme without we comprehend teach the one who reading it become critical in imagining and analyzing. Don't always be worry Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme can bring if you are and not make your case space or bookshelves' become full because you can have it in the lovely laptop even mobile phone. This Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme having fine arrangement in word and layout, so you will not feel uninterested in reading.

#### **Traci Daniels:**

Often the book Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme has a lot info on it. So when you make sure to read this book you can get a lot of gain. The book was published by the very famous author. This articles author makes some research previous to write this book. This book very easy to read you may get the point easily after reading this book.

#### **May Chapa:**

Precisely why? Because this Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme is an unordinary book that the inside of the reserve waiting for you to snap it but latter it will distress you with the secret this inside. Reading this book beside it was fantastic author who all write the book in such awesome way makes the content inside easier to understand, entertaining technique but still convey the meaning completely. So , it is good for you because of not hesitating having this nowadays or you going to regret it. This book will give you a lot of advantages than the other book have got such as help improving your proficiency and your critical thinking method. So , still want to postpone having that book? If I have been you I will go to the publication store hurriedly.

#### **Cristen Washington:**

Some people said that they feel weary when they reading a reserve. They are directly felt the idea when they get a half portions of the book. You can choose often the book Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme to

make your personal reading is interesting. Your current skill of reading talent is developing when you such as reading. Try to choose basic book to make you enjoy to read it and mingle the opinion about book and studying especially. It is to be very first opinion for you to like to available a book and study it. Beside that the publication Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme can to be your friend when you're experience alone and confuse with the information must you're doing of their time.

**Download and Read Online Purification of Serratia sp.  
phosphatase, identification/localisation of the two phosphatase  
isoenzymes and large scale production of the enzyme Holger Pflücke  
#61WPMGSNAJ7**

## **Read Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke for online ebook**

Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke books to read online.

## **Online Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke ebook PDF download**

**Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke Doc**

Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke Mobipocket

Purification of Serratia sp. phosphatase, identification/localisation of the two phosphatase isoenzymes and large scale production of the enzyme by Holger Pflicke EPub