Summary

Abstract

Introduction

1. Canker stain disease

1.1 The plant host: *Platanus acerifolia*

1.2 The causal agent: *Ceratocystis fimbriata f.sp.platani*

1.3 Infective process

1.4 Disease symptoms

1.4 Pathogen diffusion and fight methods

1.5 Cerato-platanin

1.6 Other fungal secretion proteins without enzymatic activity

1.6.1 Elicitins

1.6.2 AVR proteins

1.6.3 Idrophobins

1.7 Plant-pathogen interactions
1.8 Plant defence mechanisms

1.8.1 Hypersensitive response (HR)

1.8.2 Programmed cell death (PCD)

1.8.3 Reactive oxygen species (ROS), Nitric oxide (NO) and salicylic acid (SA)

1.8.4 Jasmonic acid and ethylene

1.8.5 Pathogen related proteins (PR)

1.8.6 Signalling mechanisms

Aim of the study

Materials and methods

2.1 Production and purification of cerato-platanin

2.2 Plane leaf treatments

2.3 Total RNA isolation

2.4 SSH library construction

2.5 Differential screening of the subtracted cDNA libraries

2.6 Clones sequencing and analysis
Summary

2.7 Semi quantitative determination of transcript levels by RT-PCR

2.8 In situ hybridisation

Results

3.1 Construction of SSH libraries and identification of over-expressed genes

3.2 Clones with complete CDS sequence

3.3 In situ hybridisation

Discussion

References