UPPSALA UNIVERSITET

# Molecular Biotechnology Programme

Uppsala University School of Engineering

| **UPTEC X 04 020** | **Date of issue 2004-02** |
|---|---|


Author

**Lena Eriksson**


Title (English)

**Integrated matrix metalloprotease assays in CD – microlaboratories**

Title (Swedish)


Abstract

Matrix metalloproteases (MMPs) are subject to diagnostic assessment due to their up-regulation in cancer tissue. In this study, miniaturised CD-based methods for analysing activity and quantity of MMP-2 were developed. Enzyme activity was measured by a homogeneous assay based on the FRET technique. Enzyme quantification was performed with a sandwich immunoassay, using antibodies to capture and enable detection of MMP-2 on an affinity column. Sub-nM detection limits were demonstrated for both methods. Further, the feasibility to serially integrate enzyme activity and quantification assays in a single CD-microstructure was investigated.



Keywords

MMP, Homogeneous enzyme activity assay, FRET, Sandwich immunoassay



Supervisors

**Mats Holmquist**
**Gyros AB**

Scientific reviewer

**Mats Inganäs**
**Gyros AB**


| Project name | Sponsors |
|---|---|
| Language **English** | Security |
| **ISSN 1401-2138** | Classification |
| Supplementary bibliographical information | Pages **34** |


**Biology Education Centre** Biomedical Center Husargatan 3 Uppsala
Box 592 S-75124 Uppsala Tel +46 (0)18 4710000 Fax +46 (0)18 555217