



**Molecular Biotechnology Programme
Uppsala University School of Engineering**

UPTEC X 03 003	Date of issue 2003-01-20	
Author	Hanna Göransson	
Title (English)	Identification of diagnostic markers for classification of thyroid tumours using expression array analysis	
Title (Swedish)		
Abstract	<p>The identification of the different subclasses of follicular thyroid tumours is important in the choice of thyroid cancer patients. Expression analysis may provide an alternative to morphology-based tumour classification. Using microarrays as a screening tool allows the gene expression profiles of thousands of genes to be monitored simultaneously. The aim of the project was to find markers in order to distinguish follicular carcinomas and adenomas on a molecular level. Tumour samples from 10 follicular adenomas and 7 follicular carcinomas were used. A handful of candidate genes were discovered and verified with real-time PCR. Supervised learning was performed providing tumour classification, with an error rate of only 5.8% using three genes. Further research will investigate whether these potential candidates may be used in a clinical application, in order to improve the diagnostic accuracy in thyroid cancer.</p>	
Keywords	Microarray, thyroid tumours, classification, diagnostic markers	
Supervisors	Anders Isaksson Department of Genetics and Pathology, Uppsala University	
Examiner	Ulf Pettersson Department of Genetics and Pathology, Uppsala University	
Project name	Thyroid project	
Sponsors		
Language	English	
Security		
ISSN 1401-2138	Classification	
Supplementary bibliographical information	Pages 34	
Biology Education Centre Box 592 S-75124 Uppsala	Biomedical Center Tel +46 (0)18 4710000	Husargatan 3 Uppsala Fax +46 (0)18 555217