UPPSALA UNIVERSITET

Molecular Biotechnology Programme

Uppsala University School of Engineering

UPTEC X07 043	**Date of issue 2007-06**

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Title (English)

Natural antisense transcripts in *Dictyostelium discoideum*

Title (Swedish)

Abstract

Endogenous RNAs with antisense (as) orientation towards protein coding genes have been found in various organisms. The aim of the project was to study a small RNA from an extensive cDNA library complementary to the protein coding gene rcc1 in the model organism *Dictyostelium discoideum*. The following questions were asked (i) does this small asRNA derive from a longer transcript, (ii) does the expression of the asRNA and its mRNA vary during development and (iii) does the expression change in mutant strains lacking various RNAi related proteins? The results showed that a longer antisense transcript towards the gene *rcc1* most likely exists, and that asRNA and mRNA are developmentally regulated. Furthermore, the asRNA expression could not be detected in growing AX4 mutant strain lacking the RNA dependent RNA polymerase homolog, RrpC, which suggests that this protein might be involved in the asRNA production using an mRNA as a template.

Keywords

RNA, RNA interference, Natural antisense transcript, siRNA, gene regulation, *D. discoideum*

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Project name	Sponsors
Language **English**	Security
ISSN 1401-2138	Classification
Supplementary bibliographical information	Pages **27**

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