

**BARLEY CELLULOSE SYNTHASES INVOLVED IN SECONDARY
CELL WALL FORMATION AND STEM STRENGTH: GENERATION
OF cDNA CONSTRUCTS FOR FUNCTIONAL ANALYSIS**

by

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DECLARATION

I declare that this thesis is a record of original work and contains no material which has been accepted for the award of any other degree or diploma in any university. To the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text.

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PREFACE

This research was performed over 10 months as part of a Masters in Biotechnology (Plant Biotechnology). The literature review was previously assessed in accordance with the correction suggested by the examiners. The main focus of the project remains very similar to that of the research proposal. However the goals were not achieved according to the time deadline stated in the research proposal. Hence protein purification was could not be carried out.

Although the research manuscript contained herein will provide the first draft of a future publication to be submitted to Plant journal, due to time constraint, all data relevant to that publication has not been collected. However, additional data which was not conclusive was collected and this is provided within the appendices. The research manuscript outlines stages involved in the construction and heterologus expression of barley Cesa4 cDNA. While the appendices contain additional data from HvCesa4 protein structure prediction, media recipes, in-silico representation of the HvCesa4 constructs with respective vectors.

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