

CURRICULUM VITAE

Date: 02.01.2012

Personal data

Name: Marta Alexandra Marques Alves

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Academic degrees

2010. PhD in Biochemistry, Plant Physiology at ITQB-UNL.

2003. Graduation in Chemistry - Biochemistry at the UTL-IST (Universidade Técnica de Lisboa - Instituto Superior Técnico). Classification: 15/20.

Previous and current scientific and/or professional activities

2012 – Present. Assessment of the potential nutraceutical value and health benefits of two novel berry crops adapted to typical Mediterranean conditions. Post-doc fellowship from FCT (SFRH/BPD/76646/2011).

2010- 2011. Molecular studies on the biology of plant storage proteins. BI fellowship from ITQB (034/BI/2010).

2005 - 2010. The response of higher plants to boron deficiency. PhD fellowship from FCT (SFRH/BD/ 18273/ 2004)

2004. EAN bean (*Phaseolus vulgaris* L.) germplasm collection: molecular characterization and biochemical evaluation. BIC fellowship from ITQB (006/BIC/2004).

2002-2003. The effect of boron in plants - practice training at ITQB (Instituto de Tecnologia Química e Biológica) and IST (Instituto Superior Técnico).

Area of scientific activity

Beneficial effect of plant compounds in human health.

Present research interests

Beneficial effect of the polyphenols present in the plants in human health, particularly in degenerative diseases such as neurodegenerative diseases and colorectal cancer.

Other skills/activities

Organisms

Plant species: *Chlamydomonas reinhardtii*, *Saccharomyces cerevisiae*, *Arabidopsis thaliana*, *Medicago truncatula*, *Oryza sativa*, *Phaseolus vulgaris* and *Lupinus albus*;

Human cell lines: neuroblastoma cell line SK-N-MC and colorectal cancer cell line HT-29.

Techniques

Transcript analysis: RNA extraction, electrophoresis, microarray data analysis, PCR and qRT-PCR;

Protein analysis: Electrophoresis by SDS-PAGE, 2-DE, zymography and reverse zymography;

Metabolite analysis: ¹³C-NMR (major soluble compounds) and HPLC (phenols). Metabolite analysis: ¹³C-NMR (major soluble compounds), HPLC (phenols).

Publications

Thesis

Alves M (2003) Determinação do efeito do boro nas plantas. Practice training thesis at IST/ITQB.

Alves M (2010) Responses of higher plants to boron deficiency. PhD Thesis at ITQB.

Papers in international scientific periodicals with referees

Alves M, Moes S, Jenö P, Pinheiro C, Passarinho J, Ricardo CP (2011) The analysis of *Lupinus albus* root proteome revealed cytoskeleton altered features due to long-term boron deficiency. *Journal of Proteomics* 74 (8) 1351-1363. DOI: 10.1016/j.jprot.2011.03.002.

Alves M, Chicau P, Matias H, Passarinho J, Pinheiro C, Ricardo CP (2011) Metabolic analysis revealed altered amino acid profiles in *Lupinus albus* organs due to boron deficiency. *Physiologia Plantarum* 142 (3): 224-232. DOI: 10.1111/j.1399-3054.2011.01462.x.

Chaves I, **Alves M**, Carrilho D, Duque-Magalhães M, Ricardo CP, Regalado A (2011) Protein changes during programmed cell death in tobacco. *Biologia Plantarum* 55 (1): 153-158. DOI: 10.1007/s10535-011-0021-y.

Alves M, Chaves I, Carrilho D, Veloso M, Ricardo CP (2010) Detection of nine new trypsin inhibitors in the cotyledons of *Phaseolus vulgaris* seeds. *Journal of Plant Physiology* 167 (10): 848-854. DOI: 10.1016/j.jplph.2010.01.007.

Alves M, Francisco R, Martins I, Ricardo CP (2006) Analysis of *Lupinus albus* leaf apoplastic proteins in response to boron deficiency. *Plant and Soil* 279: 1-11. DOI: 10.1007/s11104-005-3154-y.

Communications

Santos CN, Tavares L, Figueira I, **Alves M**, Stewart D, Pimpão R, Willianson G, Ferreira RB (2011) Plant-derived compounds and neurodegenerative diseases. EPSO Workshop, Plant Pigments and Human Health, Gerona, Spain.

Alves M (2010) Responses of higher plants to boron deficiency. PhD presentation at ITQB, Oeiras, Portugal.

Alves M (2009) The role of B in higher plants. PhD program presentation at ITQB, Oeiras, Portugal.

Alves M, Saibo N, Ricardo CP (2009) The involvement of transcription factors in water deficit responses. COST dynamic Training School – COST FP0601/FA0603, Orvieto, Italy.

Alves M (2007) The Effect of Boron in Plant Growth and Development. PhD program presentation at ITQB, Oeiras, Portugal.

Alves M, Francisco R, Martins I, Ricardo CP (2005) Proteomics of the plant response to boron deficiency. Third Annual Meeting of ProCura, Cascais, Portugal.