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Hydropenia induces expression of drought responsive genes (DRGs) *erd1*, *hat*, *plD-δ*, and *zfa* in *Linum usitatissimum* L.

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Globally, abiotic stresses affect growth and yield of an economically and industrially important field crop flax, *Linum usitatissimum*. Being genomically unmapped, the molecular details of abiotic stress signaling in flax has not been elucidated. One such important and most damaging abiotic stress in flax is hydropenia or drought that inhibits growth and development of the plant. With the release of its genome sequence, there is a renewed interest in functional genomics study in flax. In an endeavour to get insights into the molecular events of hydropenia i.e., drought stress, an in-depth study of four marker genes induced by drought stress was carried out in flax. Expression profiling of these four drought responsive genes *viz. erd1*, *hat*, *plD δ and zfa* in flax were correlated to the expression profile in model crops such as *Arabidopsis* and rice. Based on phenotypic expression, relative water content and semi-quantitative PCR expression data, we confirmed the applicability of these four genes in screening drought tolerant varieties of an industrially important crop like flax.

Keywords: Drought stress, Flax, Gene expression, Linseed, Relative water content, Semi-quantitative PCR