AtXPB DUPLICATION IN *ARABIDOPSIS THALIANA*: DIFFERENT FUNCTIONS FOR *AtXPB* HOMOLOGS?

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Nucleotide Excision Repair (NER) is a major component of the eukaryotic repair mechanism to protect cellular genetic content. This DNA repair pathway recognizes the lesion in the DNA, excises the damaged oligonucleotide and synthesizes a new and correct DNA strand. During the excision step, the DNA helicase activity is mediated by XPB subunit of the Transcription Factor II H (TFIIH). TFIIH is a dual function protein complex which plays essential roles in both transcription and NER. Different from other eukaryotes, XPB subunit is duplicated in *Arabidopsis thaliana* genome (AtXPB1 and AtXPB2) with the homologs sharing 95% identity in amino acid sequence. To better understand the roles played by each homolog, expression analyses and GFP protein fusion studies were analyzed in *Arabidopsis*. Preliminary results indicate that the expression of AtXPB homologs is similar but not identical in the plant organs. AtXPB2 expression is higher at G1/S phase while AtXPB1 is constitutively expressed during the cell cycle. Also, *AtXPB1* but not *AtXPB2* expression is rapidly induced in trichomes after UVB irradiation suggesting some specialization of these genes for the different functions.

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