

AN *ARABIDOPSIS* TRANSLATIONALLY
CONTROLLED TUMOR PROTEIN INVOLVES IN ABA
AND GLUCOSE SIGNALING

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Translationally Controlled Tumor Protein (TCTP), also termed p23, is a calcium- and tubulin-binding protein, and it is also known as a histamine releasing factor in animals. Although TCTP proteins exist in plants, their function is not known yet. To investigate the function of TCTP in plants, we isolated an *Arabidopsis* TCTP (AtTCTP) and characterized its function using knockout and overexpression plants. Our results showed that AtTCTP is a calcium-binding protein, and also has tubulin-binding properties in a cell-cycle specific manner, like animal TCTPs. The knockout plants showed ABA-insensitive phenotype in plant's growth, while the overexpression plants showed ABA-hypersensitive phenotype. The knockout plants also showed glucose-insensitive phenotype, i.e. growth in the presence of high glucose concentration. These results suggest that plant TCTP proteins have very similar properties to animal TCTPs such as calcium- and tubulin-binding, but function differently in plants, specifically in ABA and glucose signaling.

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