Microgravity effects on *Arabidopsis thaliana* energy pool

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The flexibility of plant bioenergetics helps plants to acclimate to environmental stresses. Our work is focused on standard free energy changes for PPi and ATP hydrolysis in order to assess the relative importance of PPi versus ATP as an energy donor in the plant cytosol of *Arabidopsis* plants exposed to microgravity. The results indicated that PPi would be particularly favored as a phosphoryl donor, relative to ATP, under cytosolic conditions known to accompany stresses. Recent researches showed that besides its functions inside the cell, ATP may be released to the extracellular milieu, where it functions as the primary signaling molecule of a diverse range of physiological processes. It seems that extracellular ATP is essential for maintaining plant cell viability. We intend to study how the production and the release of ATP is influenced by the microgravity.

References

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