

T H E  
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C E L L

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**ON THE COVER**



O'Leary et al. (pp 666-682) assesses metabolic processes in leaves at night and the role of TOR signalling in fuelling respiration to maintain ATP for maintenance and growth of leaves. When amino acid levels are high, TOR is activated which subsequently downregulates the mitochondrial respiratory pathways consuming amino acids as fuel, and upregulates protein synthesis, thus using amino acids for growth. So we now know that plants use TOR to sense the levels of both sugars and amino acids in plant cells and coordinate downstream energy generating or utilizing processes. The image shows leaves of a tree at night lit by the light of the moon. Photo Credit: Pxhere (CC0)

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Online at [www.plantcell.org](http://www.plantcell.org)**Matrix Redox Physiology Governs the Regulation of Plant Mitochondrial Metabolism through Posttranslational Protein Modifications**

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