NAD(P)H redox regulation in plants

The soluble redox carriers NAD(H) and NADP(H) are central mediators of reductant between metabolic processes, energy transduction and stress response components. The cellular redox levels of NADPH and NADH are affected by signaling compounds like Ca2+, which affects the rate of NAD(P)H oxidation by activating dehydrogenases on the external side of mitochondria.

Degree projects can be designed aiming at:

a) In transgenic plants modified with respect to mitochondrial pathways of NADH and NADPH oxidation (Type II NAD(P)H dehydrogenases), it is possible to directly asses the importance of the cellular pools of NADPH and NADH for involvement in tolerance against biotic and abiotic stresses.

b) In isolated mitochondria and after expression in E. coli, the regulatory properties of NAD(P)H dehydrogenases can be studied biochemically.

[Review article giving background info on NADP(H) redox regulation](http://www.biochemsoctrans.org/bst/038/bst0380661.htm).

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