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# Overexpression of *PDX-II* gene in potato (*Solanum tuberosum* L.) leads to the enhanced accumulation of vitamin B6 in tuber tissues and tolerance to abiotic stresses

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## Highlights

- The transgenic potato (*Solanum tuberosum* L.) overexpressing pyridoxine pathway gene (*PDXII*) with glutaminase activity was developed.
- The transgenic potato exhibited significantly improved vitamin B6 contents up to 107-150% in comparison to the untransformed control potato tubers.
- The transgenic lines were also able to withstand various abiotic stresses imposed by salinity (NaCl) and methyl viologen (MV).
- The transgenic shoots grown under *invitro* condition in presence of salinity stress (200 mM NaCl) grown better as compared to the untransformed control potato plants.
- In this work, we concluded that the overexpression of *PDXII* gene driven by constitutive promoter (*CaMV 35S*) increases the vitamin B6 biosynthesis and augmented the tolerance under the abiotic stresses in potato.

## Abstracts

Vitamin B6 is a vital metabolite required for living organisms as a cofactor in several metabolic