

# Addendum: Genome evolution and diversity of wild and cultivated potatoes


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By analyses of potato pan-genome and transcriptome, we discovered a TCP transcription factor, *Soltu.DM.06G025210*, determining tuber identity, on the basis of which we named this gene *Identity of Tuber 1 (IT1)*.

After our manuscript was accepted in principle, a study by Nicolas et al.<sup>1</sup> showed that *BRANCHED1b* acts as a tuberization repressor in aerial axillary buds in tetraploid potato. We note that *IT1* and *BRANCHED1b* are the same gene. The name *BRANCHED1b* represents the *A. thaliana* nomenclature system<sup>2</sup>. We chose the name *IT1* because the function of *Soltu.DM.06G025210* in potato had not been reported before and our study suggests that it acts as a key regulator in potato tuberization, a new function that is different from its orthologue in tomato and *Arabidopsis* where it represses branching. Considering the difference in the function, we proposed the new name *IT1* for *Soltu.DM.06G025210*.

Both studies confirmed that *IT1/BRANCHED1b* interacts with the mobile tuberization inductive signal SP6A and plays an essential role in tuberization. Further investigation is awaited into how the same gene promotes tuberization in underground shoots (stolons) and represses tuberization in aerial axillary buds.

1. Nicolas, M. et al. Spatial control of potato tuberization by the TCP transcription factor *BRANCHED1b*. *Nat. Plants* **8**, 281–294 (2022).
2. Martin-Trillo, M. et al. Role of tomato *BRANCHED1*-like genes in the control of shoot branching. *Plant J.* **67**, 701–714 (2011).



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