



## The sucrose transporter HbSUT3 plays an active role in sucrose loading to laticifer and rubber productivity in exploited trees of *Hevea brasiliensis* (para rubber tree)

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Auteur	Tang, Chaorong [1], Huang, Debao [2], Yang, Jianghua [3], Liu, Shujin [4], Sakr, Soulayman [5], Li, Heping [6], Zhou, Yihua [7], Qin, Yunxia [8]
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Résumé en anglais	<p>Efficient sucrose loading in rubber-producing cells (laticifer cells) is essential for retaining rubber productivity in <i>Hevea brasiliensis</i>, but the molecular mechanisms underlying the regulation of this process remain unknown. Here, we functionally characterized a putative <i>Hevea</i> SUT member, HbSUT3, mainly in samples from regularly exploited trees. When expressed in yeast, HbSUT3 encodes a functional sucrose transporter that exhibits high sucrose affinity with a <math>K_m</math> value of 1.24 mM at pH 4.0, and possesses features typical of sucrose/H<sup>+</sup> symporters. In planta, when compared to the expression of other <i>Hevea</i> SUT genes, HbSUT3 was found to be the predominant member expressed in the rubber-containing cytoplasm (latex) of laticifers. The comparison of HbSUT3 expression among twelve <i>Hevea</i> tissues demonstrates a relatively tissue-specific pattern, i.e. expression primarily in the latex and in female flowers. HbSUT3 expression is induced by the latex stimulator Ethrel (an ethylene generator), and relates to its yield-stimulating effect. Tapping (the act of rubber harvesting) markedly increased the expression of HbSUT3, whereas wounding alone had little effect. Moreover, the expression of HbSUT3 was found to be positively correlated with latex yield. Taken together, our results provide evidence favouring the involvement of HbSUT3 in sucrose loading into laticifers and in rubber productivity.</p>
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## Liens

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