

# Review of: "Identification of an isoflavonoid transporter required for the nodule establishment of the Rhizobium-Fabaceae symbiotic interaction"

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**Potential competing interests:** The author(s) declared that no potential competing interests exist.

BLEonhard WB et al., identified and characterized a plasma membrane-localized MATE-type transporter (LaMATE2). The authors employed gene expression, RNA-based gene silencing, subcellular localization and isotope mediated transport assays, and demonstrated that LaMATE2 mediated genistein efflux, and thereby is involved in nodulation and P-solubilization. In general, I found the manuscript to be overall well designed, but the description is deficiency.

Some comments:

1. Title: the "noduoe" should be "nodule";
2. The title only emphasized the role of LaMATE2 in nodulation, but ignoring the P-solubilization;
3. I think some descriptions in abstract are redundancy, for instance, line96-104.
4. The authors described a lot about mycorrhizal association in abstract, but they did not inoculated AMF in their experiments. Thus, the authors should reduce the description in mycorrhizal association. Meanwhile, I am confused about how LaMATE2 contribute to P-solubilization. As the LaMATE2 showed a strong specificity for substrate genistein and AMF is not inoculated in the present experiment, can we conclude that genistein played a direct role in P-solubilization? Key evidences about it should be provided.
5. I think the authors have demonstrated and described well that LaMATE2 is involved in the nodulation, but how LaMATE2 influences P-solubilization is relative unclear. The authors should provide evidences or references that demonstrate the role of LaMATE2 or genistein in P-solubilization, including the previous work of your lab (Massonneau et al., 2001; Weisskopf et al., 2006).
6. I suggest to revise it carefully.