

## Jeremy Murray 英文版个人页面更新

### Main Achievements

Recent research accomplishments include the identification of NLP2 as a key transcription factor for expression of leghemoglobins in nodules (Jiang et al., 2021, Science) and the role of NPF6.5 transporter in chloride uptake and plant preference for nitrate over chloride (Xiao et al., 2021, EMBO). We have also shown that components of a mitotic module are involved in rhizobial infection (Gao et al., 2022, PNAS; Breakspear et al., 2014, Plant Cell). In earlier studies we identified VAPYRIN as the first 'common symbiotic' protein, required for infection of both rhizobia and arbuscular mycorrhizal fungi (Murray et al., 2011, Plant Journal) and showed it belongs to a complex which is found at the growing tip of rhizobial infection threads which we named the 'infectosome' (Liu et al., 2019, Nature Communications).

### Publications

Gao J.P., Jiang S.Y., Su Y.Y., Xu P., Wang J.J., Liang W.J., Liu C.W., Murray J.D.\* (2022) Intracellular infection by symbiotic bacteria requires the mitotic kinase AURORA1, PNAS, 119(43):e2202606119. doi: 10.1073/pnas.2202606119.

Kumar A., Lin H., Li Q.J., Ruan Y.T., Cousins D., Li F.Y., Gao S., Jackson K., Wen J.Q., Murray J.D.\*, Xu P.\* (2022) Anthocyanin pigmentation as a quantitative visual marker for arbuscular mycorrhizal fungal colonization of *Medicago truncatula* roots, *New Phytol*, 236:1988-1998. doi: 10.1111/nph.18504.

Gu B.G., Chen Y., Xie F., Murray J.D., Millar A.J.\* (2022) Inorganic Nitrogen Transport and Assimilation in Pea (*Pisum sativum*), *Genes* (Basel), 13(1):158, doi: 10.3390/genes13010158.

Wang D.P., Dong W.T., Murray J.D.\*, Wang E.T.\* (2022) Innovation and Appropriation in Mycorrhizal and Rhizobial Symbioses, *Plant Cell*, koac039, doi: 10.1093/plcell/koac039.

Jiang S.Y., Jardinaud M-F, Gao J.P., Pecrix Y., Wen J.Q., Mysore K., Xu P., Sanchez-Canizares C., Ruan Y.T., Li Q.J., Zhu M.J., Li F.Y., Wang E.T., Poole P.S., Gamas P., and Murray J.D.\* (2021) NIN-Like Protein Transcription factors regulate leghemoglobin genes in legume nodules, *Science*, 374, 6567, doi: 10.1126/science.abg5945.

Xiao Q.Y.#, Chen Y.#, Liu C.W.#, Robson F., Roy S., Cheng X.F., Wen J.Q., Mysore K., Miller A.J.\*, Murray J.D.\* (2021) MtNPF6.5 mediates chloride uptake and nitrate preference in *Medicago* roots. *EMBO J*. doi: 10.15252/embj.2020106847.

Banasiak J., Jamruszka T., Murray J.D., Jasiński M. (2021) A roadmap of plant membrane transporters in arbuscular mycorrhizal and legume-rhizobium symbioses, *Plant Physiology*, kiab280, doi: 10.1093/plphys/kiab280.

Gao J.P., Xu P., Wang M.X., Zhang X.W., Yang J., Zhou Y., Murray J.D., Song C.P., Wang E.T.\* (2021) Nod factor receptor complex phosphorylates GmGEF2 to stimulate ROP signaling during nodulation. *Curr Biol.* 31:3538-3550. doi: 10.1016/j.cub.2021.06.011.

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Ruan Y., Chen K., Su Y., Jiang S., Xu P.\*, and Murray J.D.\* (2021) A root tip-specific expressing anthocyanin marker for direct identification of transgenic tissues by the naked eye in symbiotic studies. *Plants (Basel)*.10(3):605. doi: 10.3390/plants10030605.

Roy S., Breakspear A., Cousins D., Torres-Jerez I., Jackson, K., Kumar, A., Su Y., Liu, C-W, Krom, N., Udvardi M., Xu P., Murray J.D.\* (2021) Three common symbiotic ABC-B transporters in *Medicago truncatula* are regulated by a NIN-independent branch of the symbiosis signalling pathway, *Mol Plant Microbe Interact.* doi: 10.1094/MPMI-02-21-0036-R.

Liu M.X., Jia N., Li X.L., Liu R.J., Xie Q., Murray J.D., Downie J.A., Xie F.\* (2021) CERBERUS is critical for stabilization of VAPYRIN during rhizobial infection in *Lotus japonicus*. *New Phytol.* 229(3):1684-1700. doi: 10.1111/nph.16973.

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Murray J.D.\* , Liu C.W., Chen Y., Miller A.J.\* (2017) Nitrogen sensing in legumes. *J Exp Bot.* 68(8):1919-1926. doi: 10.1093/jxb/erw405. (review)

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