

The use of drugs in the study of vacuole morphology and trafficking to the vacuole in *Arabidopsis thaliana*

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© Springer Science+Business Media, LLC, part of Springer Nature. 2018. Chemical compounds are useful to perturb biological functions in the same way as classical genetic approaches take advantage of mutations at the DNA level to perturb gene function. The use of bioactive chemicals currently called chemical genetic is especially valuable for cell biology. Chemical genetic approaches allow perturbations of cellular processes post-germination in a given time window controlling the severity of the effect by modifying or modulating the dose and/or the period of the treatment. Additionally, compounds can be applied directly to different mutants and translational fluorescent reporters/marker lines, expanding the repertoire of experimental setups addressing cell biology research. In this chapter, we describe standard protocols to visualize vacuole morphology and trafficking to the vacuole and the use of bioactive compounds as a proxy to study these biological processes.