

Tracking receptor endocytosis and signaling in plants

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Receptor-mediated endocytosis is an integral part of signal transduction as it attenuates signaling and provides spatial and temporal dimensions to signaling events.

BRASSINOSTEROID INSENSITIVE1 (BRI1) perceives its ligand, the brassinosteroid (BR) hormone at the cell surface and is constitutively endocytosed. However, the importance of endocytosis for BR signaling remains unclear. We recently developed a bioactive, fluorescent BR and visualized the endocytosis of BR receptor-ligand complexes in living *Arabidopsis* cells (Irani et al., 2012). Genetic, biochemical and pharmacological analyses revealed clathrin-, ARF GEF- and AP-2-dependent (Di Rubbo et al., 2013) endocytic regulation of BR signaling from the plasma membrane.

Di Rubbo et al., (2013). The clathrin adaptor complex AP-2 mediates endocytosis of BRASSINOSTEROID INSENSITIVE1 in *Arabidopsis*. *Plant Cell*. 2013 25(8):2986-97.

Irani NG, Di Rubbo S et al., (2012). Fluorescent castasterone reveals BRI1 signaling from the plasma membrane. *Nat Chem Biol*. 8(6):583-9.