## PLANT-PATHOGEN INTERACTION Apoplast Cytoplasm PAMP-triggered immunity Fungal PAMP Hypersensitive response (HR) Cell wall reinforcment K13445 K13446 ₽°ROS NADPH oxidase ്**റ**് Ca<sup>2+</sup> Stomatal closure NO Ca<sup>2+</sup> Endocytosis DNA K13423... ₹ MPK4 Bacterial flagellin Defense-related gene induction K13426 Endosome K16224 K13413 K13426... MPK3/6 DNA Bacterial EF-Tu elf18 K13450 Hop:PtoD2 Phytoalexin accumulation miŘNA production K13432 K13433 PAMPs PRRs K13434 K13452 K13465 K13466 K13436 K13451 K13453 K13467 K13468 Effector-triggered immunity K13441 K13469 K13470 K13454 K13456 K13471 Avr5 K13455 +p K13408... K13437 K13457 Hypersensitive response (HR) K13473 Bacterial K13439 K13456 Chitin secretion system K13459 HrpZ β-glucan Ergosterol Pep13 NPP1 K13440 ? K13460 ► R-protein K18873 K16226 K18874 Programmed cell death K18875 DNA O — 🟲 Defence amplification DNA ►O → Cell death DNA **►O** K18878 ► Upa7 — —► Cellular hypertrophy DNA **→O** K13478 K16225 ► Defense-related gene induction Rd19 VLCFA related genes KCS1 DNA Suppression of plant HR and defense responses K18879 AfMyb30 FDH Fungal effector Defense related-gene induction Programmed cell death K13474 K13475 K18834... K13476 K13477 Immune response 04626 1/19/15 (c) Kanehisa Laboratories