

MAPPING THE TOMATO ROOT GENE EXPRESSION IN DROUGHT AND WATERLOGGING



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1. TOMATO AS A CROP MODEL



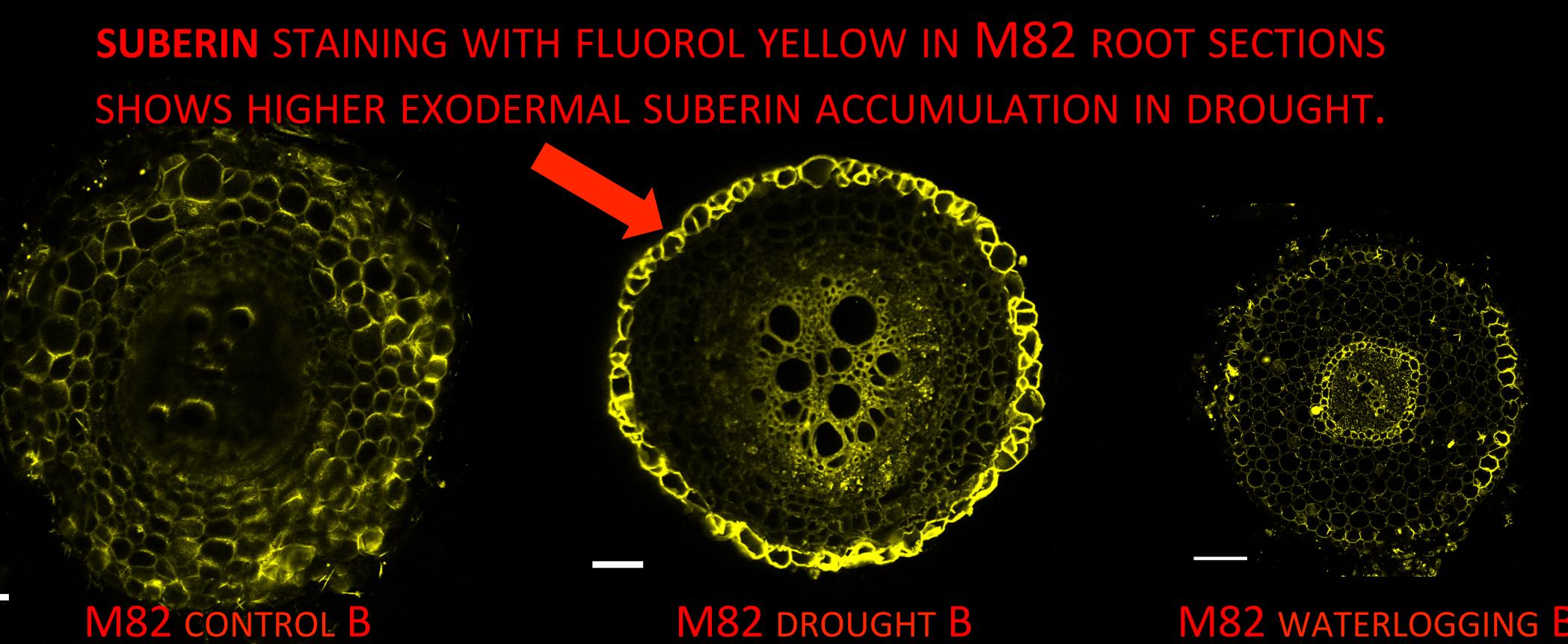
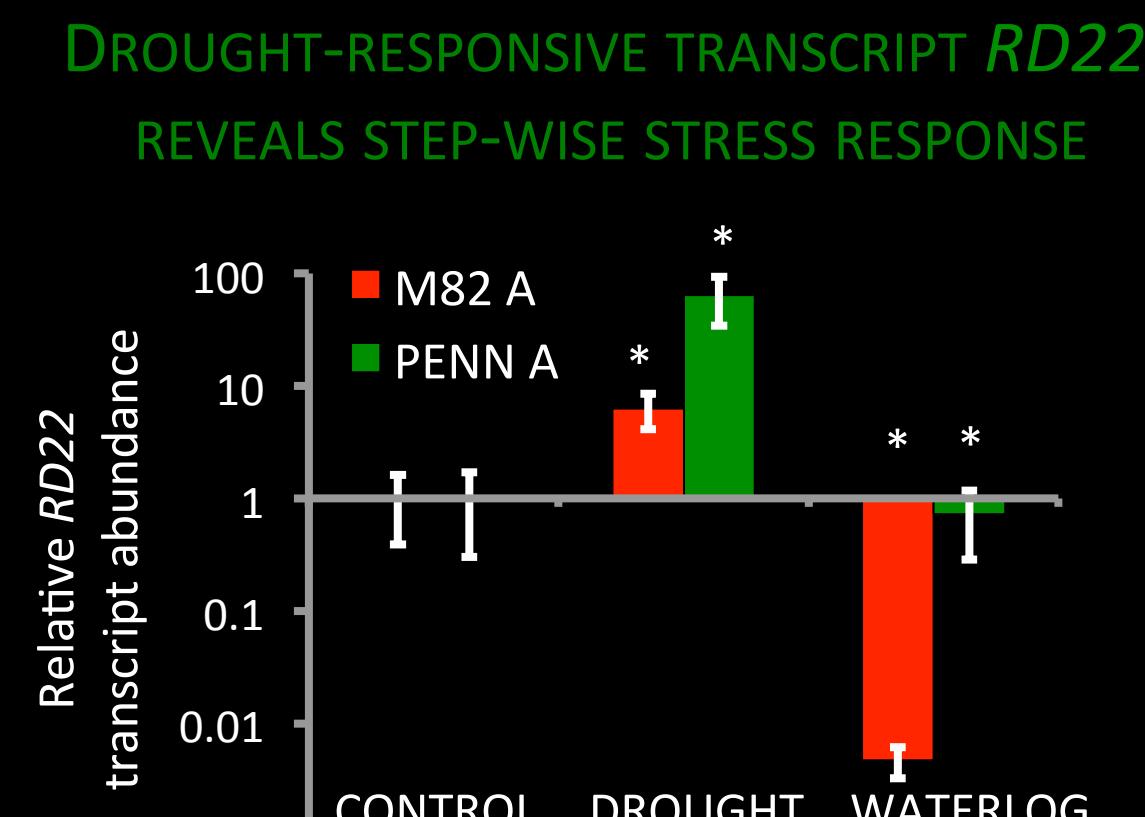
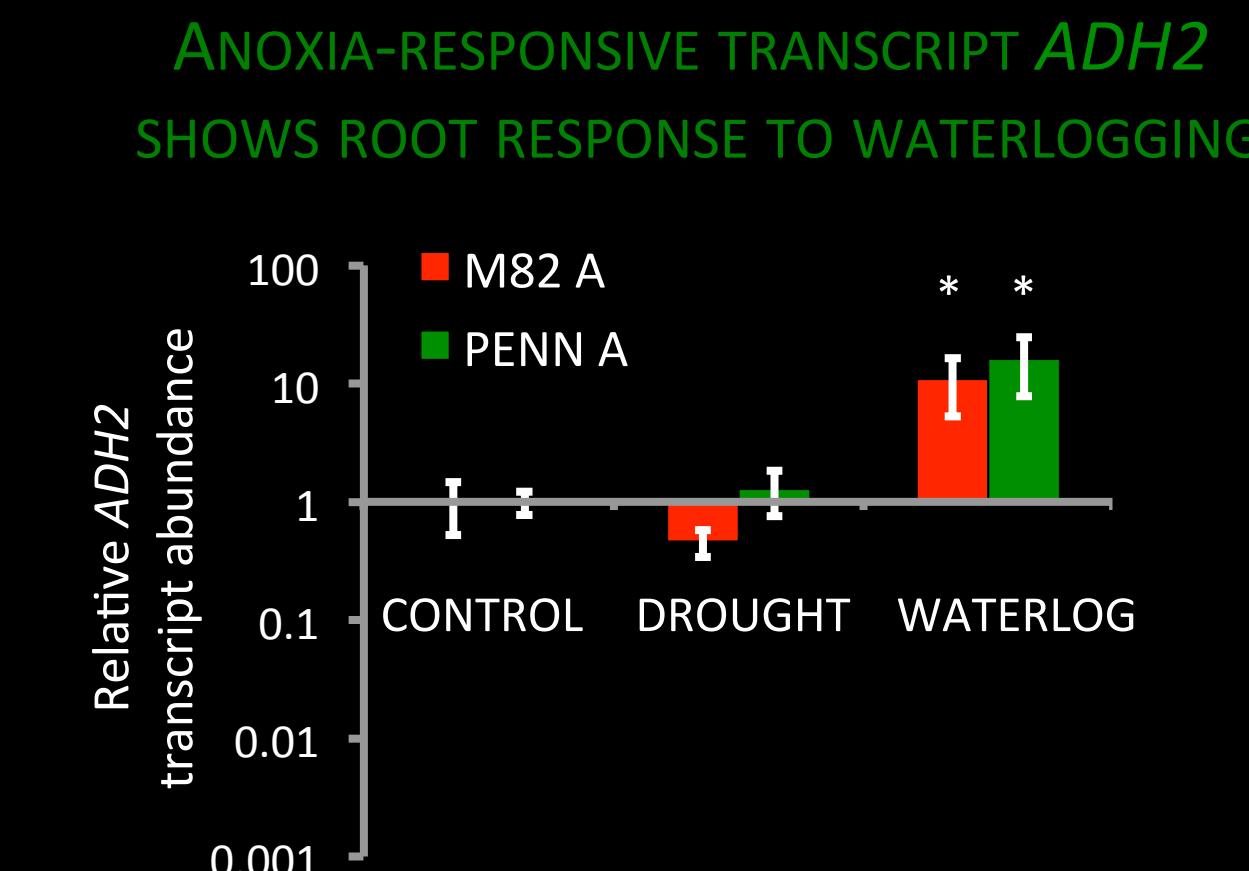
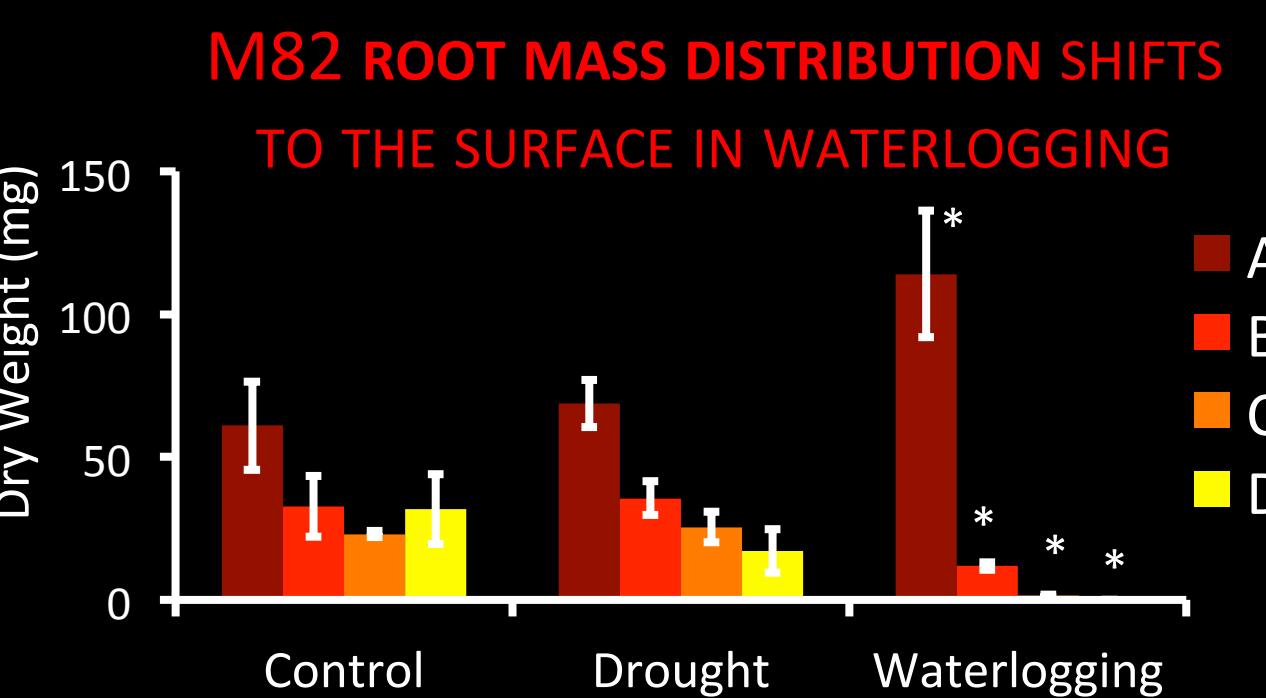
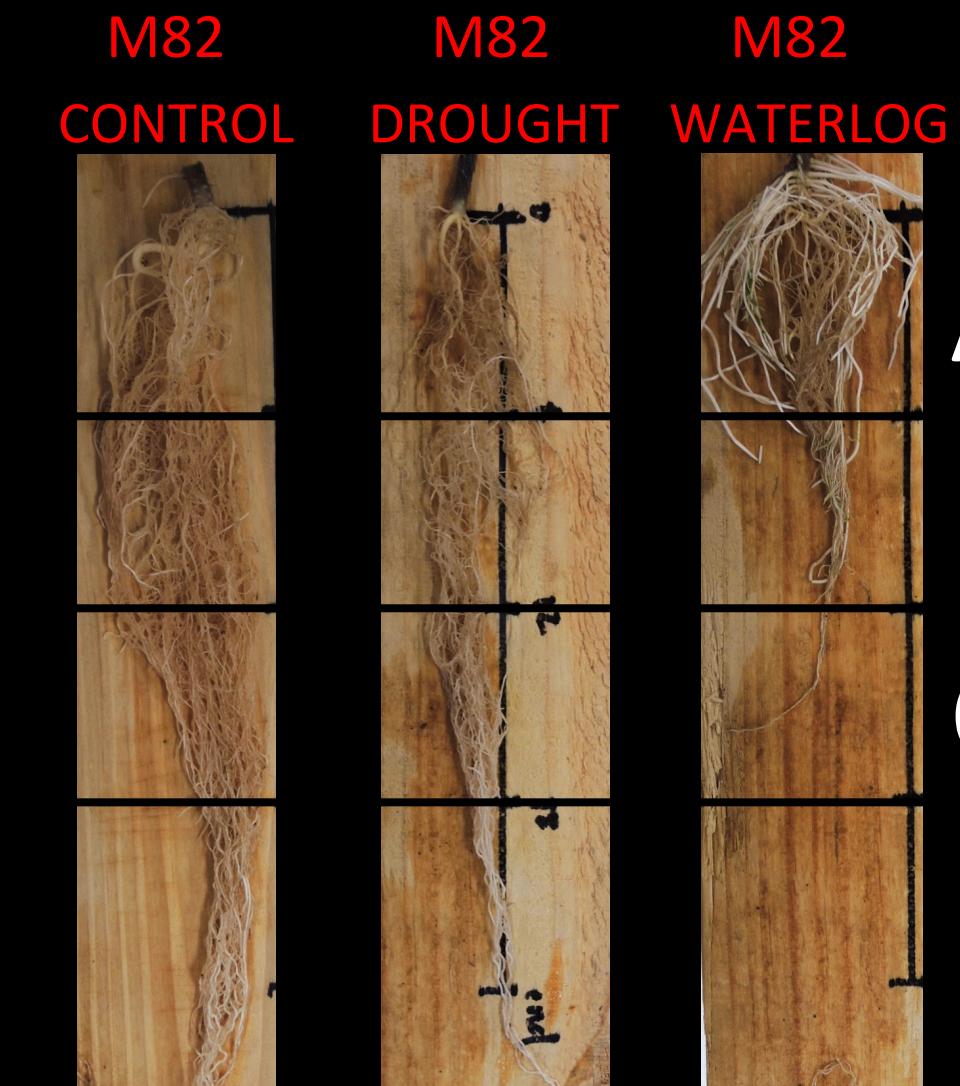
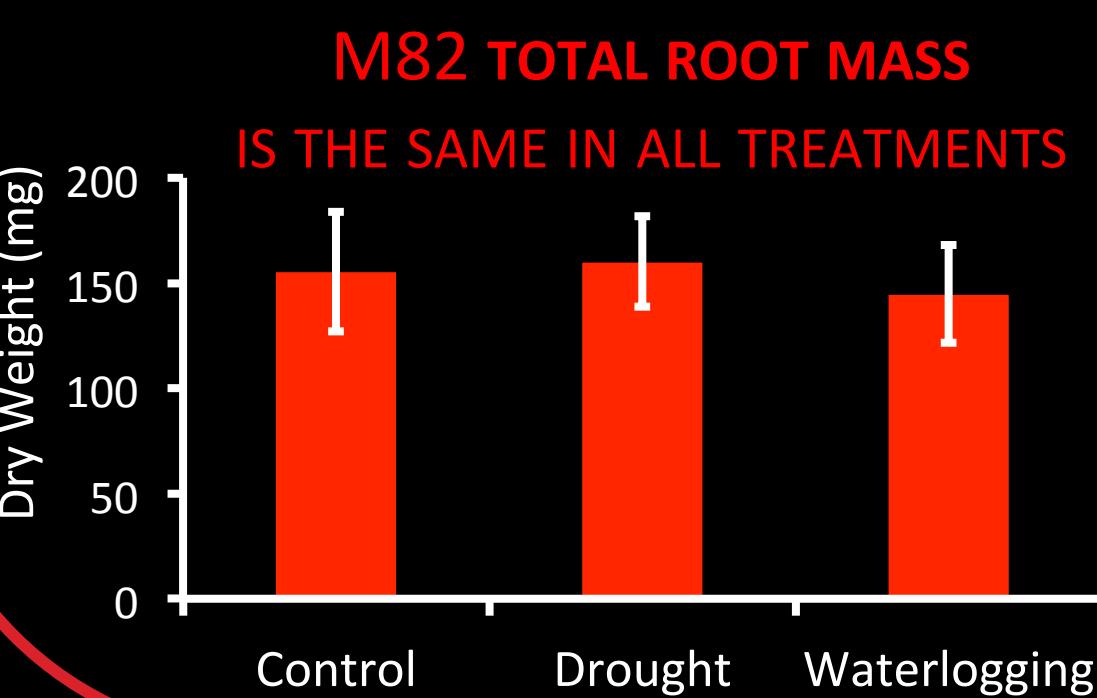
2. ROOT ARCHITECTURE AND EXODERMAL SUBERIN RESPOND TO WATER STRESS

WE TESTED THE EFFECT OF LONG-TERM DROUGHT AND WATERLOGGING ON ROOTS.

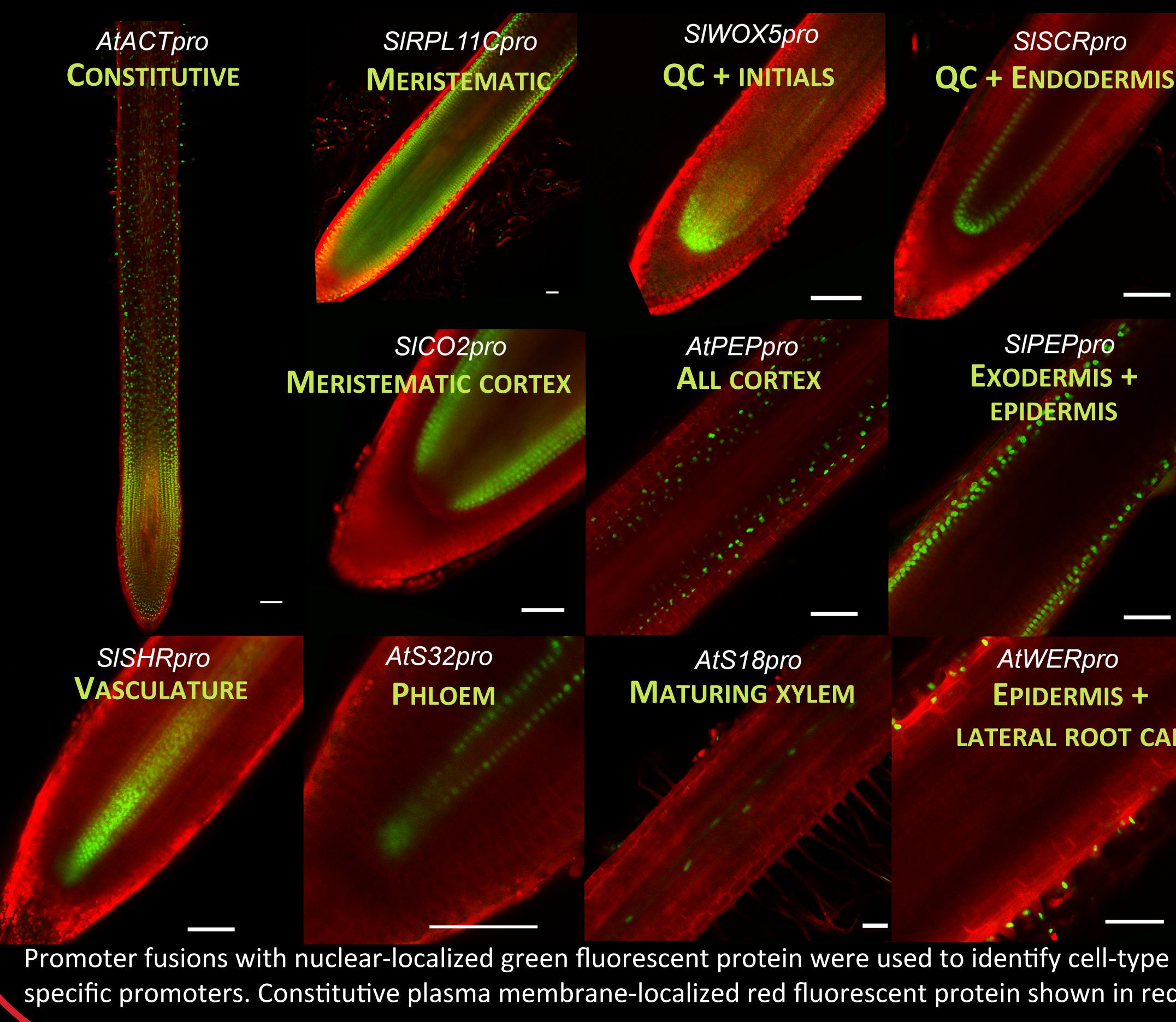
Plants grown on clay media.
16 days well watered +
12 days treatment

- control (well watered)
- drought (no water)
- waterlogging (rootball submerged)

Samples taken in 6 cm segments.



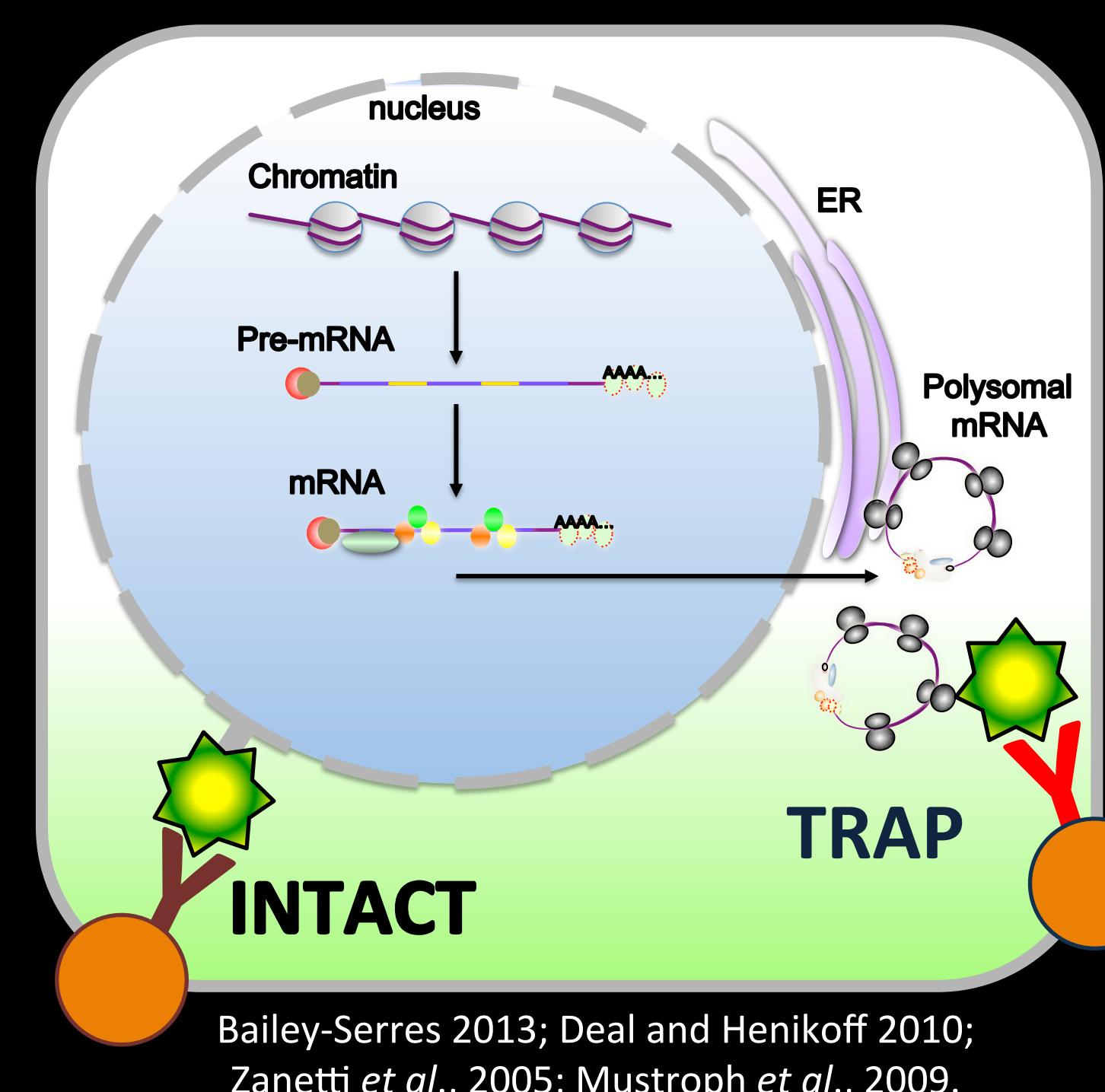
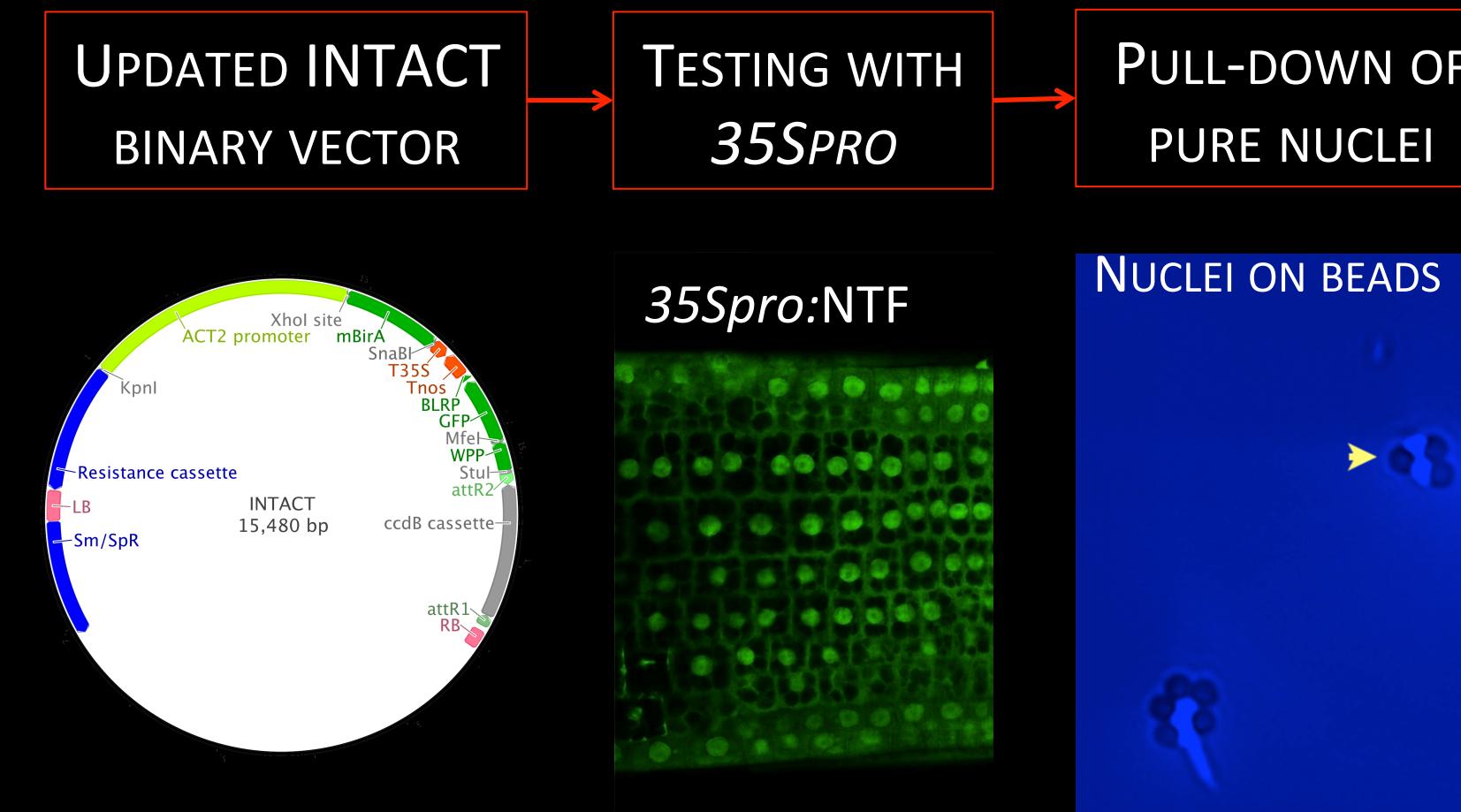
3. CELL-TYPE SPECIFIC PROMOTERS



4. TOOLS FOR ISOLATING NUCLEI AND RIBOSOMES FROM SPECIFIC CELL-TYPES

INTACT: ISOLATION OF NUCLEI TAGGED IN CELL TYPES

- 1) USE A PROMOTER TO EXPRESS A NUCLEAR BIOTIN TAG.
- 2) PULL DOWN THE NUCLEI WITH STREPTAVIDIN BEADS.
- 3) SUBSEQUENT ANALYSES: CHIP-SEQ, RNA-SEQ, ETC.



TRAP: TRANSLATING RIBOSOME AFFINITY PURIFICATION

- 1) USE A PROMOTER TO EXPRESS A RIBOSOME FLAG TAG.
- 2) PULL DOWN THE RIBOSOMES WITH α -FLAG BEADS.
- 3) SUBSEQUENT ANALYSES: RNA-SEQ, RIBOSOME FOOTPRINTING.

