SUPPLEMENTAL INFORMATION

Arabidopsis FAR-RED ELONGATED HYPOCOTYL 1 and FHY1-LIKE are not required for phytochrome A signal transduction in the nucleus

Chiara Menon[1, 2], Cornelia Klose[2], and Andreas Hiltbrunner[2, 3, 4]

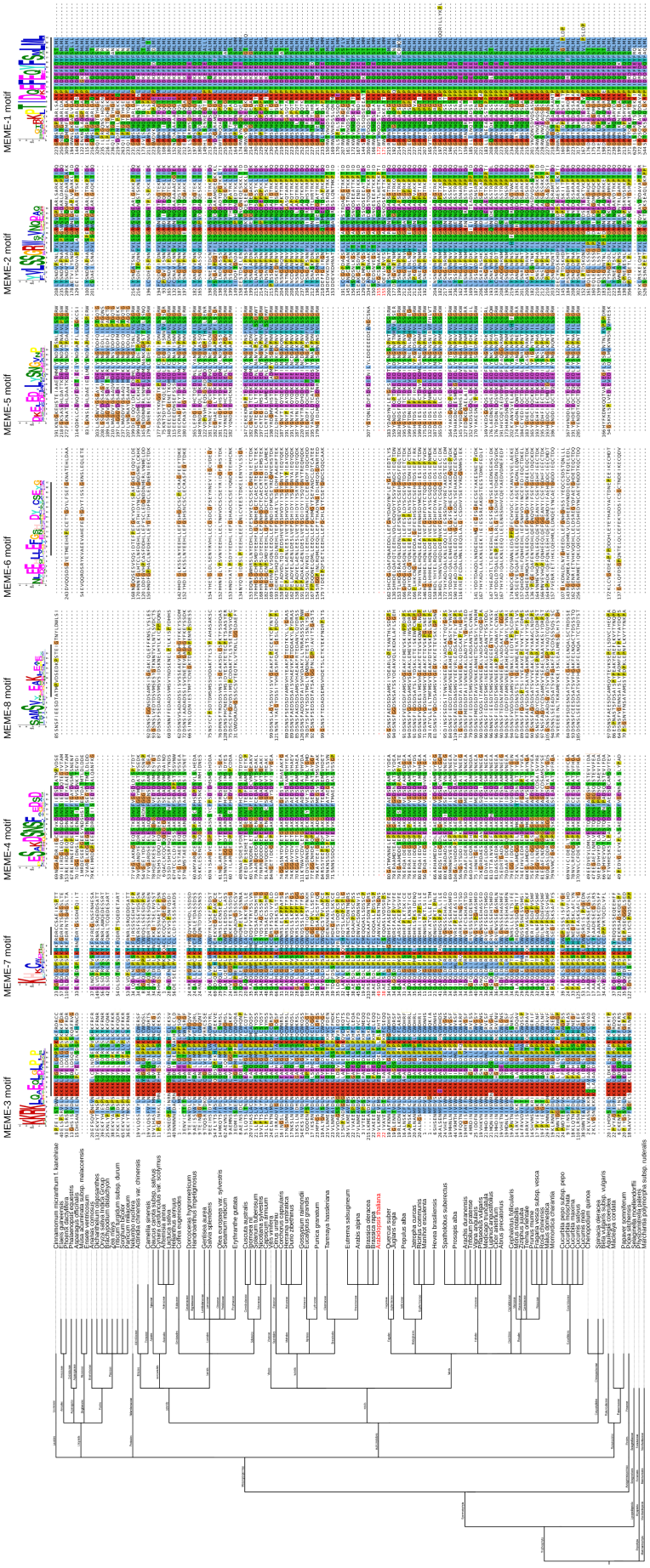
[1] Center for Plant Molecular Biology, University of Tübingen, 72076 Tübingen, Germany

[2] Faculty of Biology, Institute of Biology II, University of Freiburg, 79104 Freiburg, Germany

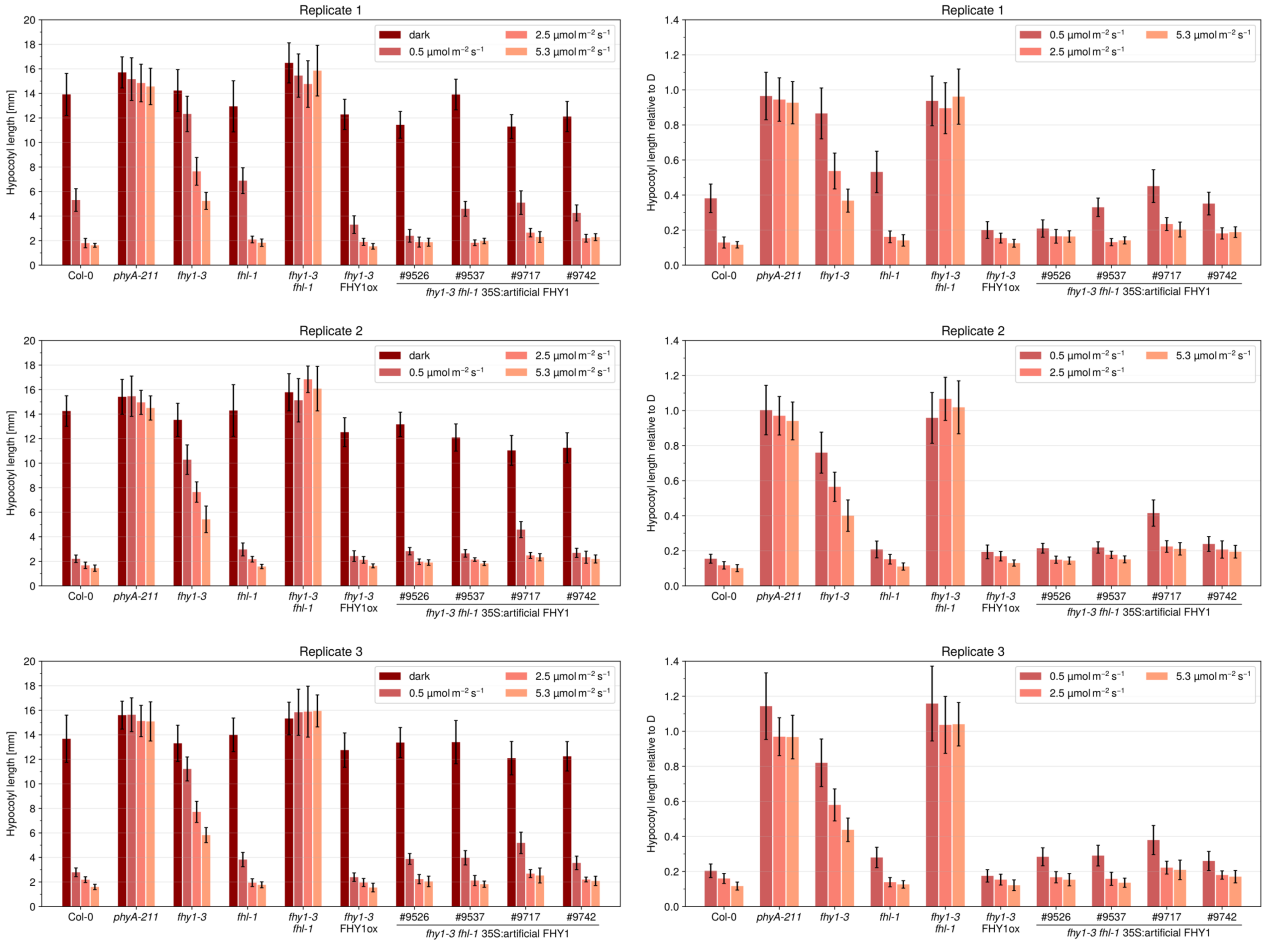
[3] Signalling Research Centres BIOSS and CIBSS, University of Freiburg, 79104 Freiburg, Germany

[4] Corresponding author: Andreas Hiltbrunner
andreas.hiltbrunner@biologie.uni-freiburg.de
Phone: +49 761 203 2709

Supplemental Figures

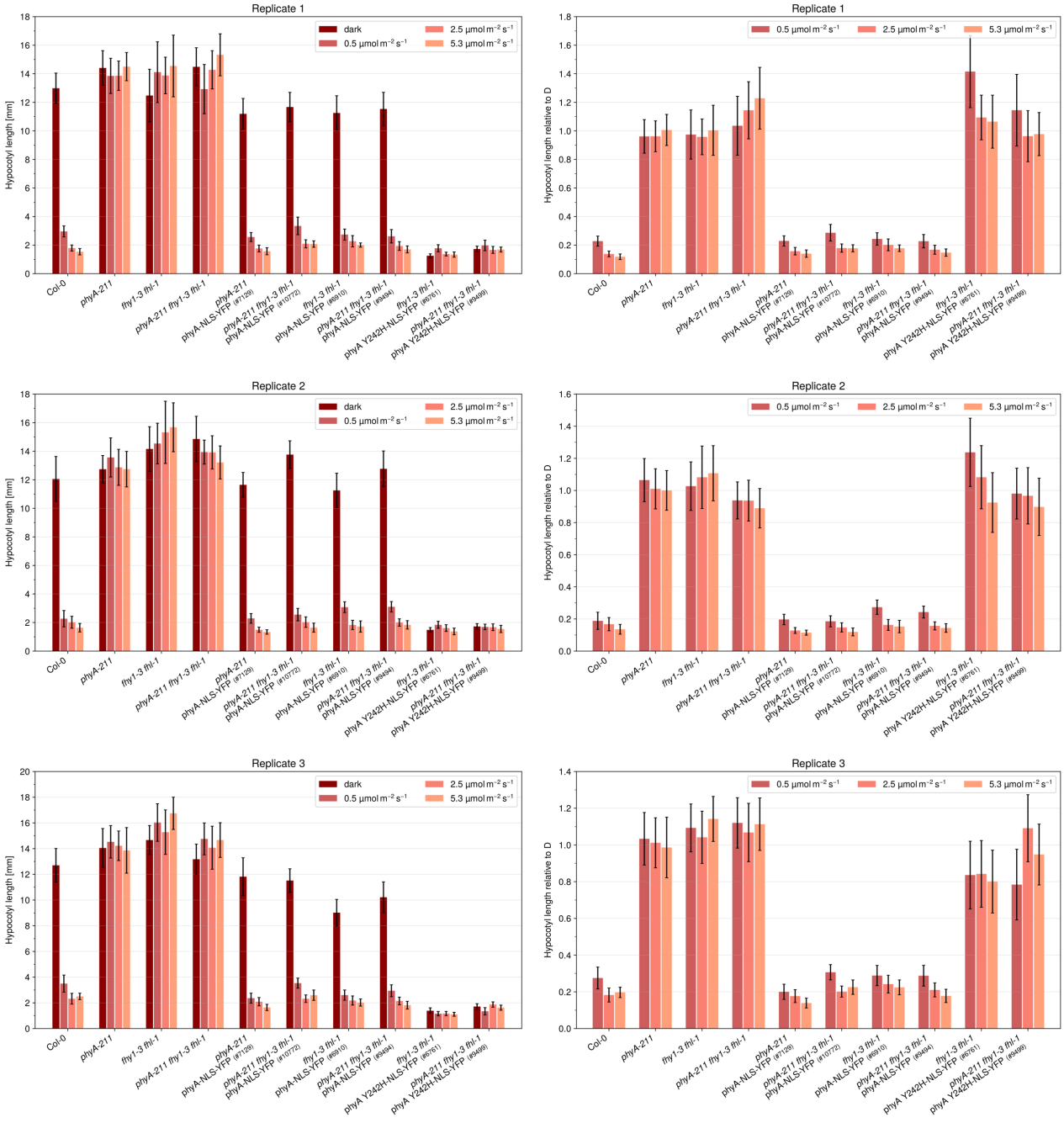


Supplemental Figure 1. Conserved motifs in FHY1/FHL-like proteins. The consenus motif of the phyA binding site of FHY1/FHL-like proteins was used to search the protein database at NCBI. Redundant sequences were removed and remaining sequences submitted to MEME to search for conserved motifs. Arabidopsis FHY1 and FHL are shown in red. The species tree was generated using NCBI Taxonomy Browser. See Supplemental Data 3 for high quality version of the figure.



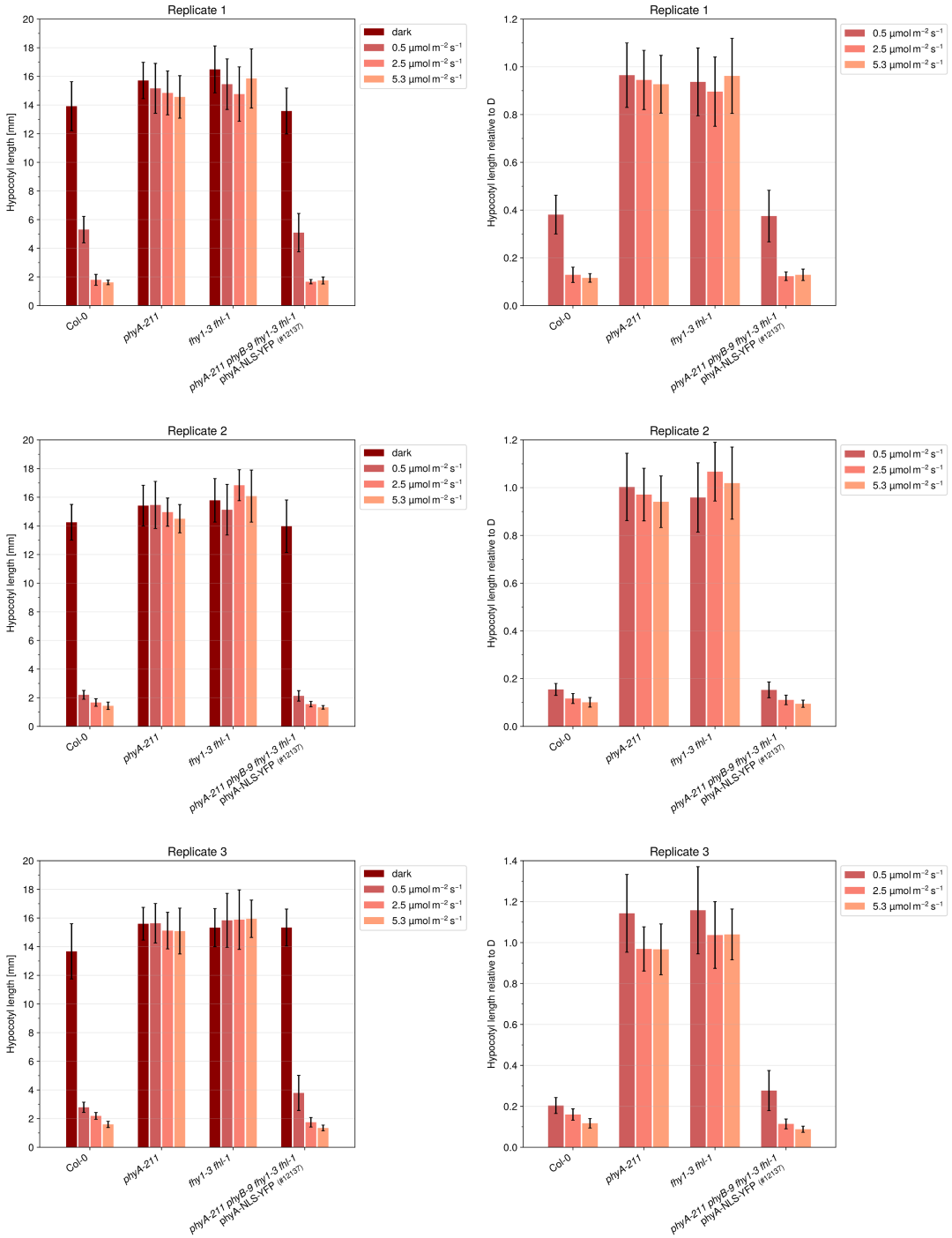
Supplemental Figure 2. Artificial FHY1 inhibits hypocotyl growth in FR light.

Seedlings were grown in the dark or in FR light of different intensities. After 5 days, hypocotyl length was measured. Bars show mean hypocotyl length of ≥20 seedlings ±SD. Three replicates are shown (left, absolute hypocotyl length; right, hypocotyl length relative to dark-grown seedlings). Replicate 3 is shown in Figure 2A.



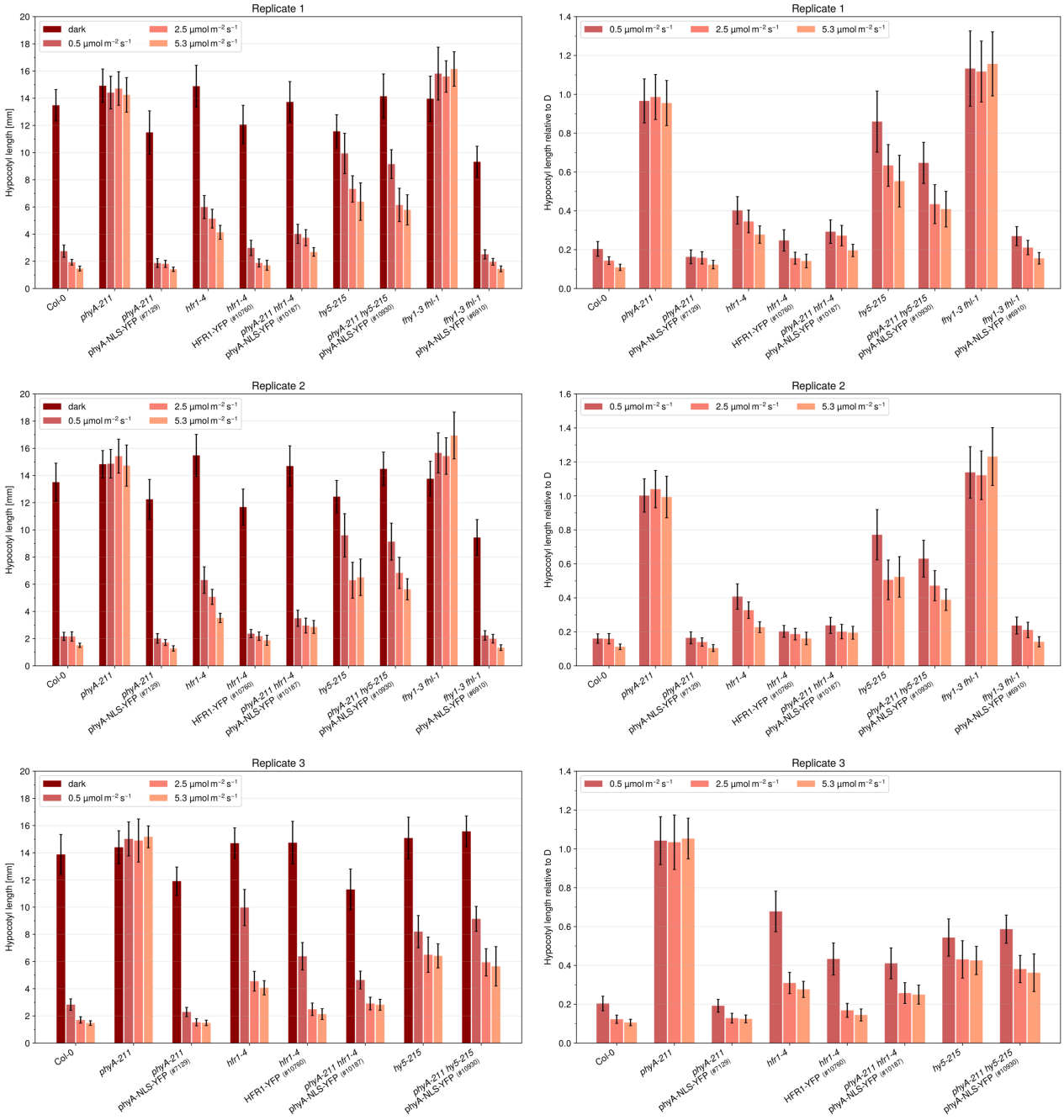
Supplemental Figure 3. PhyA-NLS-YFP inhibits hypocotyl growth in FR light.

Seedlings were grown in the dark or in FR light of different intensities. After 5 days, hypocotyl length was measured. Bars show mean hypocotyl length of ≥20 seedlings ±SD. Three replicates are shown (left, absolute hypocotyl length; right, hypocotyl length relative to dark-grown seedlings). Replicate 1 is shown in Figure 3A.



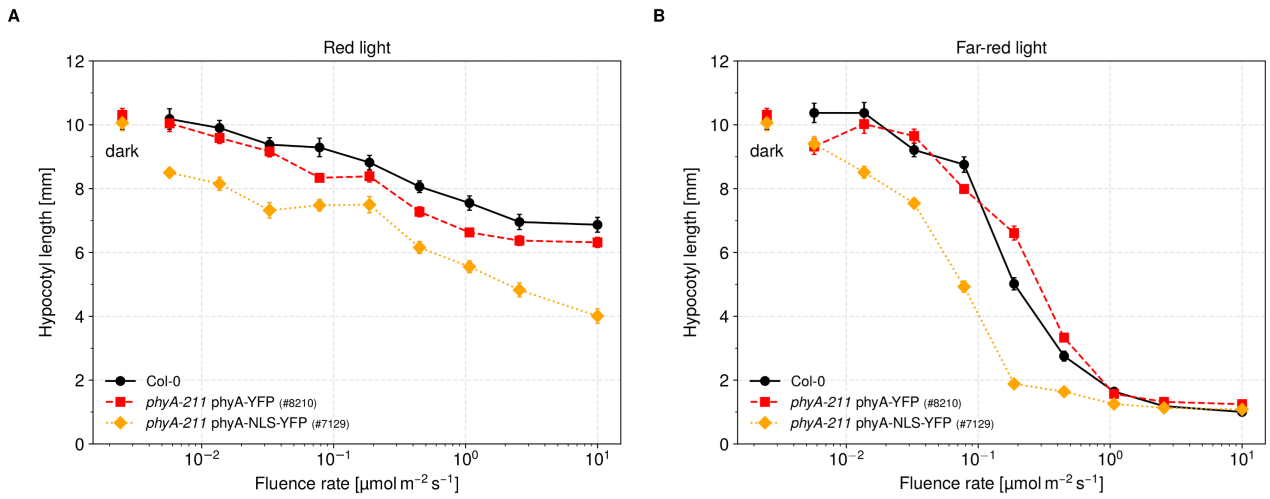
Supplemental Figure 4. PhyB is not required for phyA-NLS-YFP mediated inhibition of hypocotyl growth in FR light.

Seedlings were grown in the dark or in FR light of different intensities. After 5 days, hypocotyl length was measured. Bars show mean hypocotyl length of ≥20 seedlings ±SD. Three replicates are shown (left, absolute hypocotyl length; right, hypocotyl length relative to dark-grown seedlings). Replicate 3 is shown in Figure 4A. Data for Col-0, *phyA-211*, and *fhy1-3 fhl-1* are from Supplemental Figure 2



Supplemental Figure 5. FR light responses mediated by phyA-NLS-YFP depend on HFR1 and HY5.

Seedlings were grown in the dark or in FR light of different intensities. After 5 days, hypocotyl length was measured. Bars show mean hypocotyl length of ≥20 seedlings ±SD. Three replicates are shown (left, absolute hypocotyl length; right, hypocotyl length relative to dark-grown seedlings). Replicate 1 is shown in Figure 5A.



Supplemental Figure 6. PhyA-NLS-YFP expressing seedlings are hypersensitive to R and FR light.

(A and B) Seedlings were grown for 4 days in R light (A), FR light (B), or in the dark. Data show the mean hypocotyl length of ≥18 seedlings ±SE. Hypocotyl length relative to dark-grown seedlings is shown in Figure 6A.