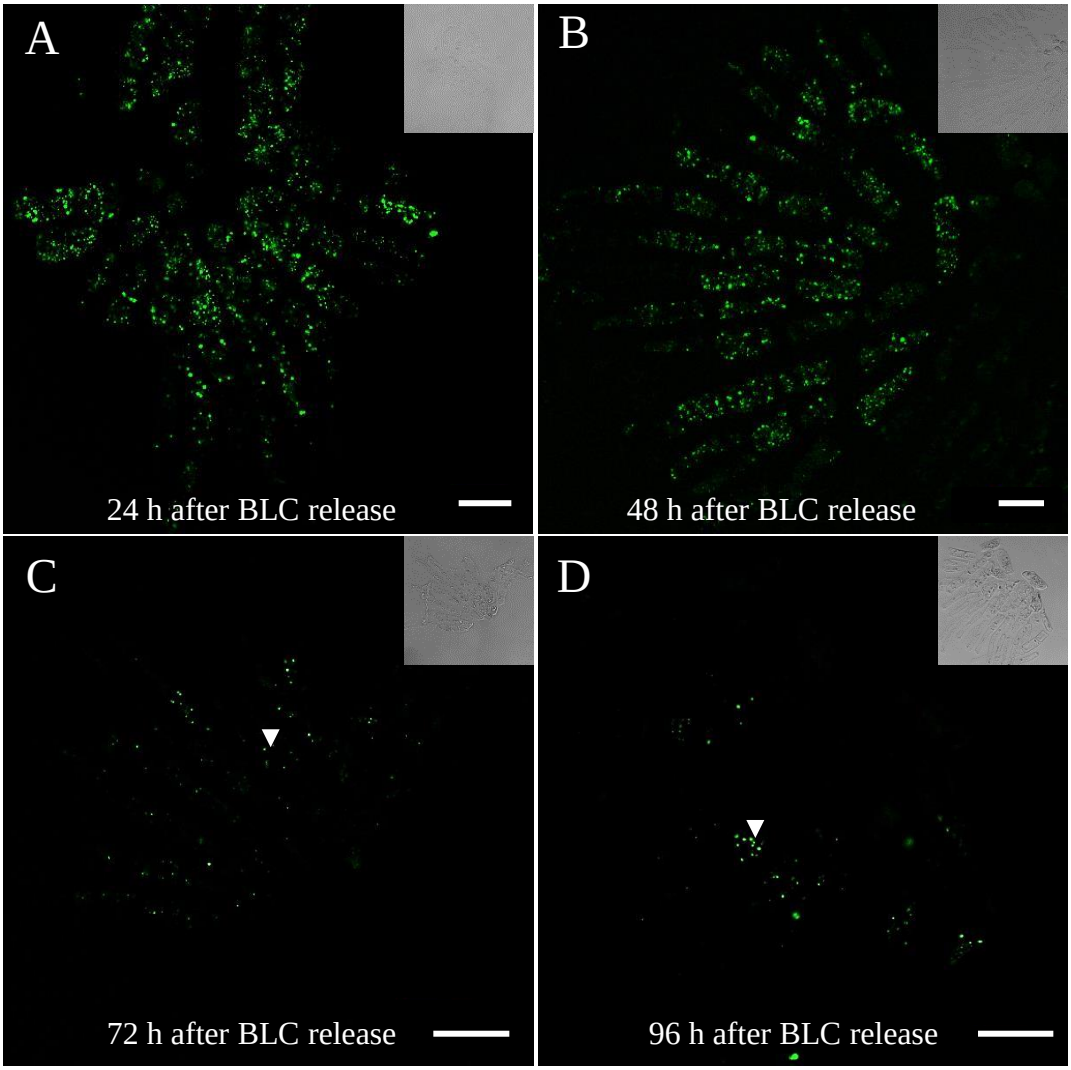
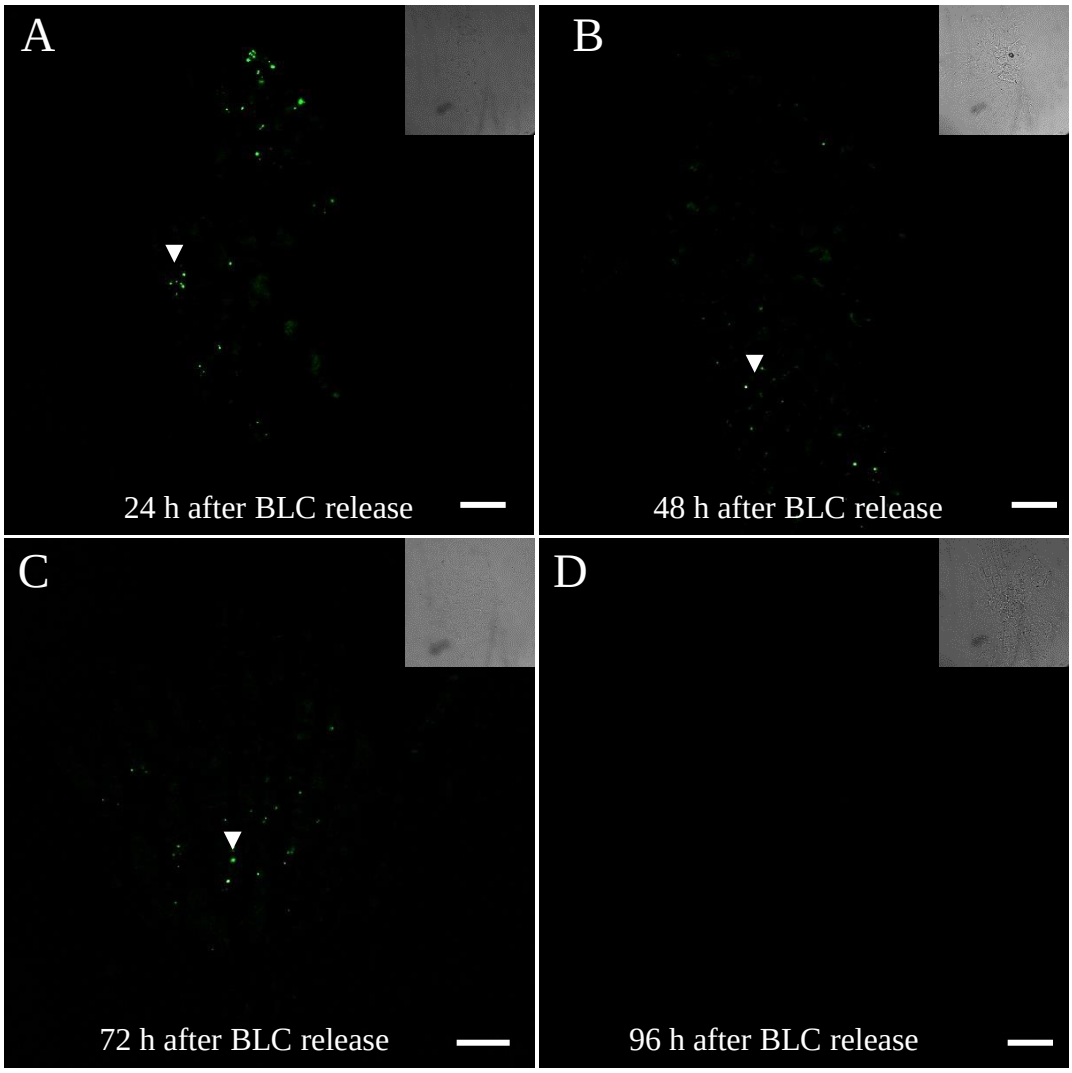
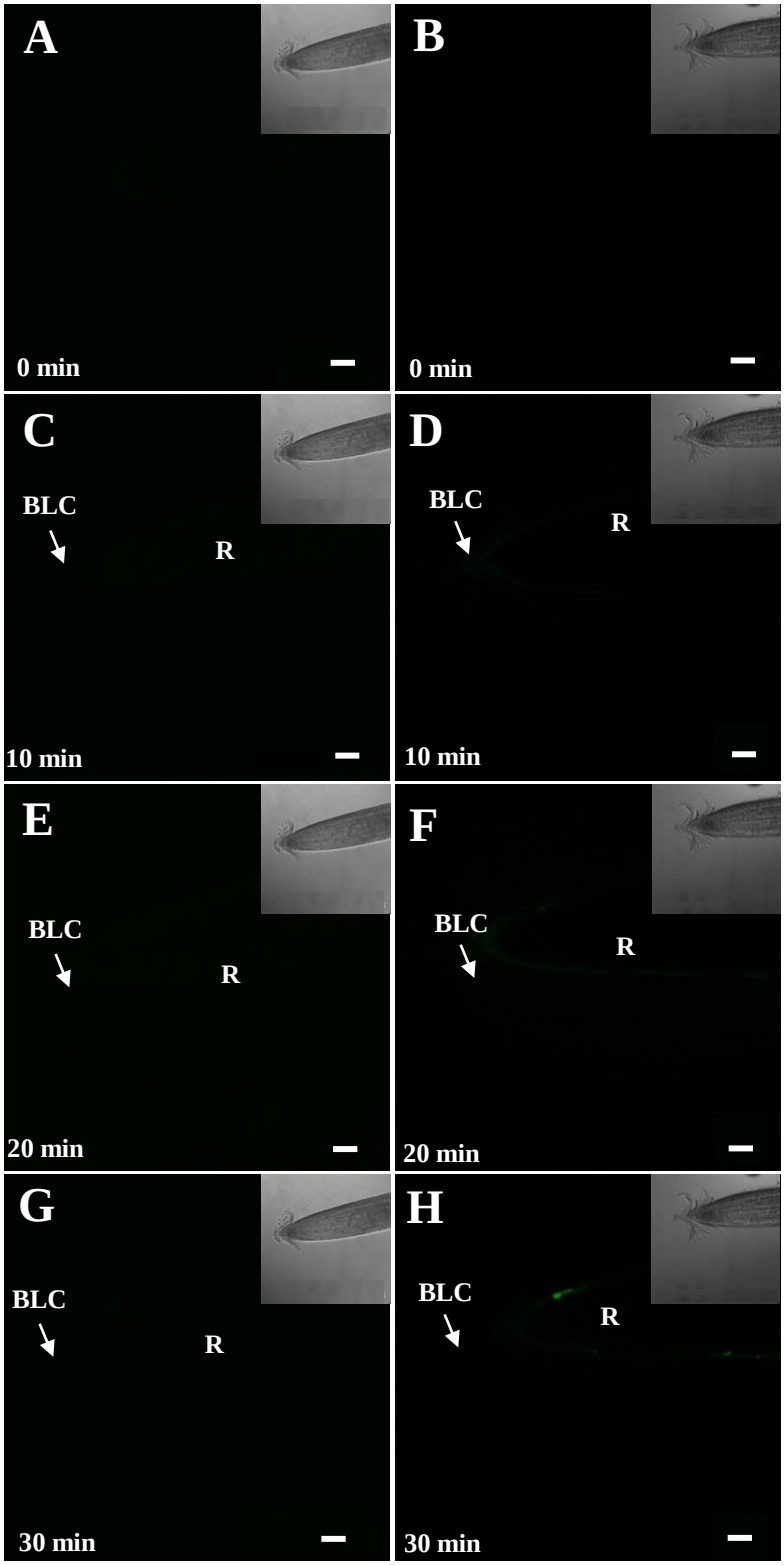


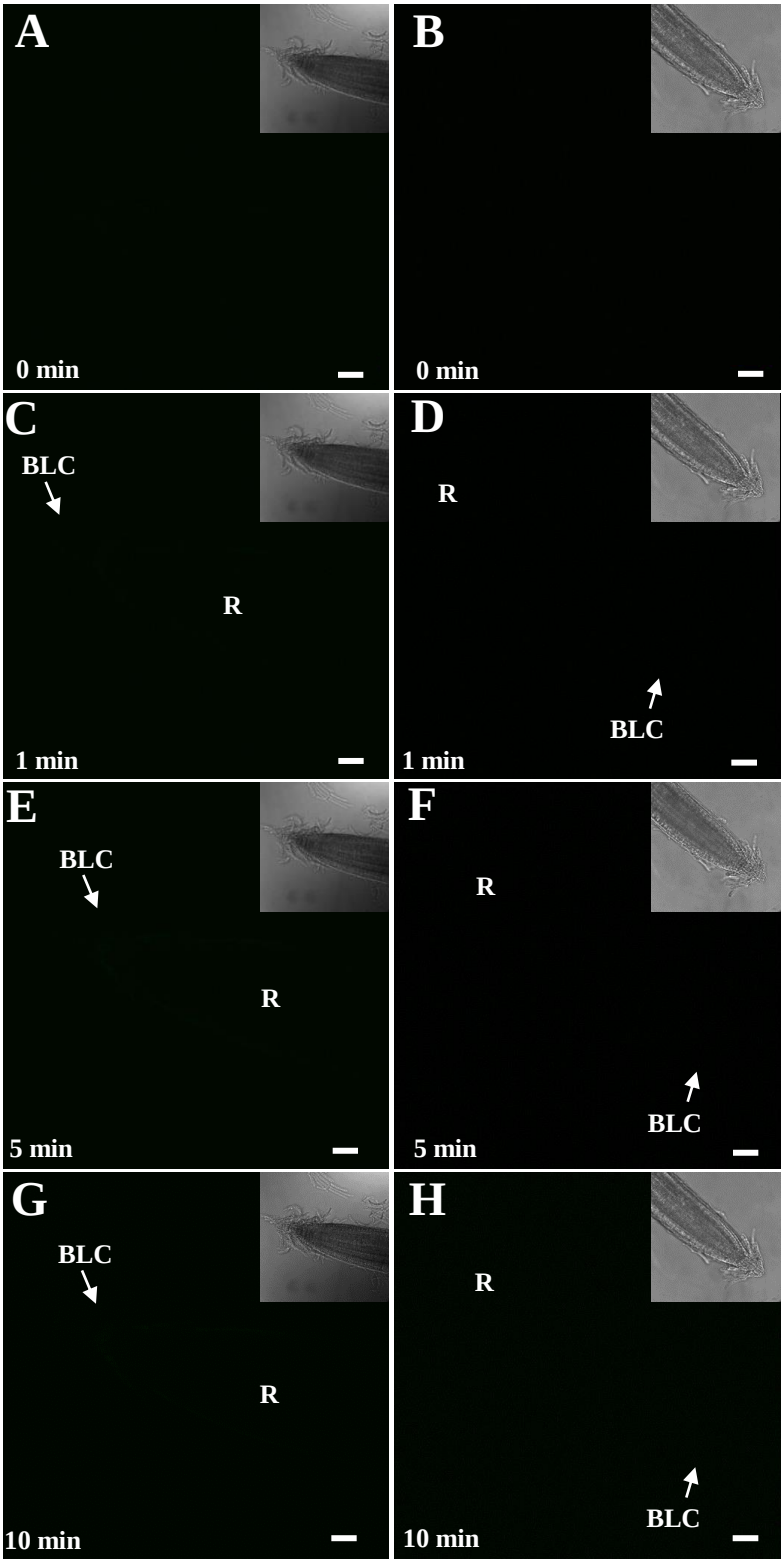
Supplemental Figure 1: Root border cells are stained with calcein-AM after being detached from the root cap for 24h, 48h, 72h and 96 h, respectively (A, B, C, D). Detached root border-like cells are placed in ½ MS liquid medium after their release. The presence of fluorescence is indicative of the cell viability. Note the strong fluorescence in detached root border-like cells at 24 and 48 h after release (A-B). A weaker labeling is detected in root border-like cells at 72 and 96 h after release from the root cap (C-D). Arrows point to BLC. BLC: Border-like cells. Scale bars: 20 µm (A-D).



Supplemental Figure 2: Production of ROS by detached root border-like cells of Arabidopsis after being detached from the root cap for 24h, 48h, 72h and 96 h, respectively (A,B,C,D). Detached root border-like cells are placed in ½ MS liquid medium after their release. ROS are stained with the probe CM-H_2DCFDA and observations are made by laser confocal scanning microscopy. Fluorescence indicates the presence of ROS. Arrows point to BLC.
BLC: Border-like cells. Scale bars: 20 μm (A-D).

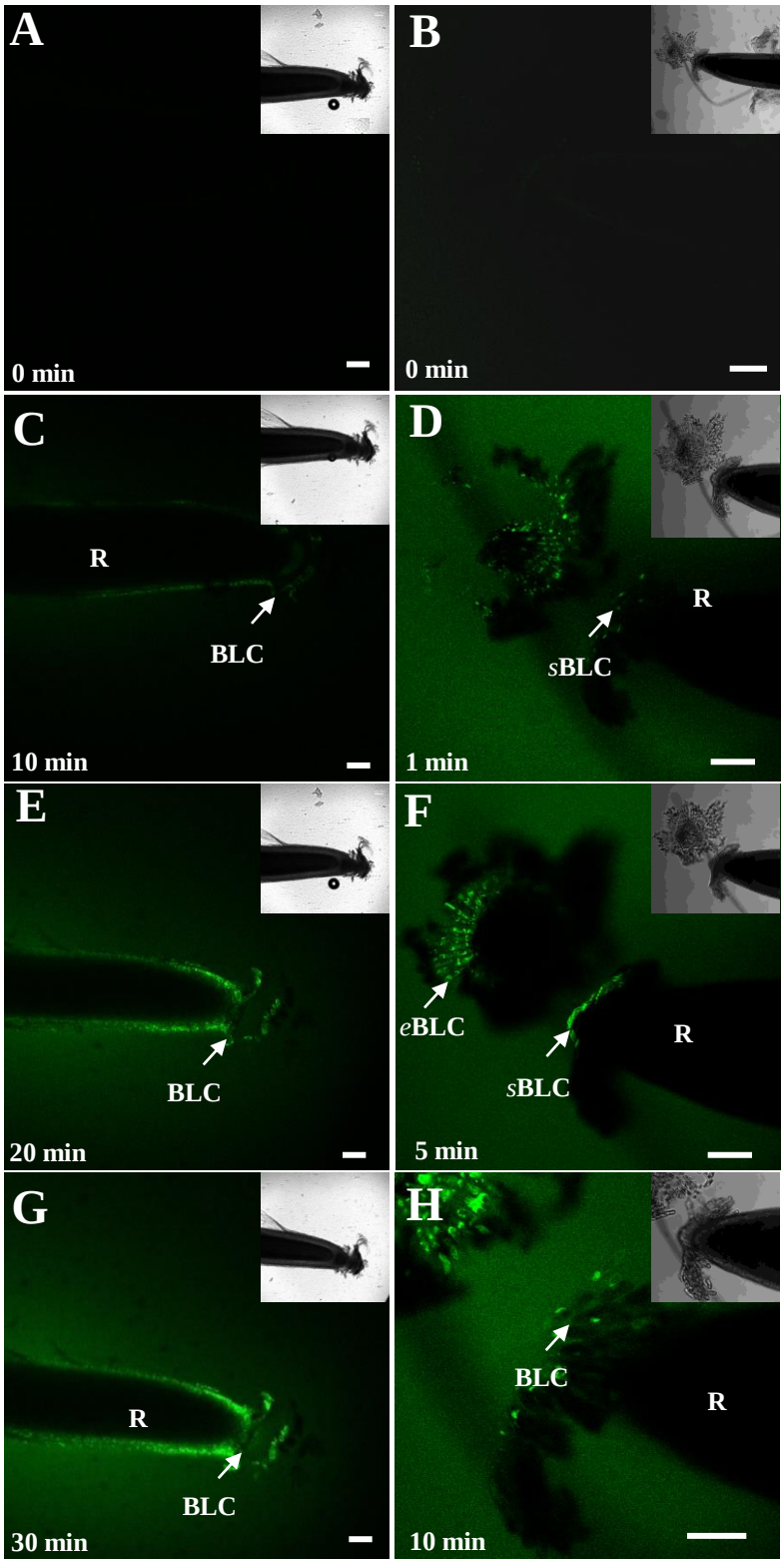


Supplemental Figure 3: Time course production of ROS by root border-like cells of *fls2* (A,C,E,G) and *atrbohDF* (B,D,F,H) Arabidopsis mutants after treatment with 1μM flg22. ROS are stained with the probe CM-H_2DCFDA and observations are made by laser confocal scanning microscopy. Fluorescence indicates the presence of ROS. Arrows point to BLC.
BLC: Border-like cells; R: root. Scale bars: 40 μm (A-H).



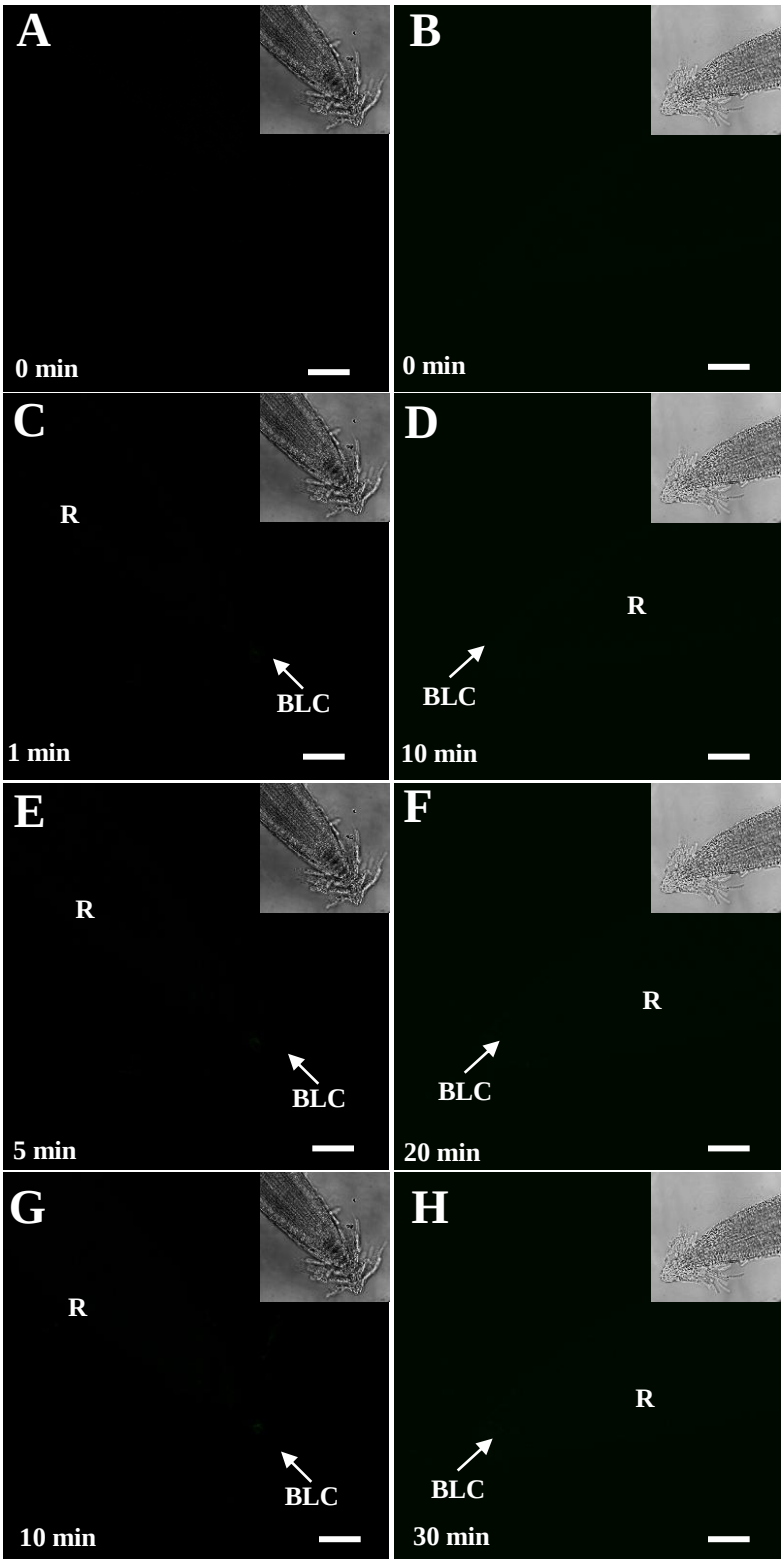
Supplemental Figure 4: Time course production of ROS in root border-like cells of *bak1-3* (A,C,E,G) and *fls2* (B,D,F,H) mutants of Arabidopsis after treatment with 1µM flg22. Staining of singlet oxygen with the fluorescent probe SOSG. Observations are made by laser confocal scanning microscopy. Fluorescence indicates the presence of ROS. Arrows point to BLC.

BLC: Border-like cells; R: root. Scale bars: 40 µm (A-H).

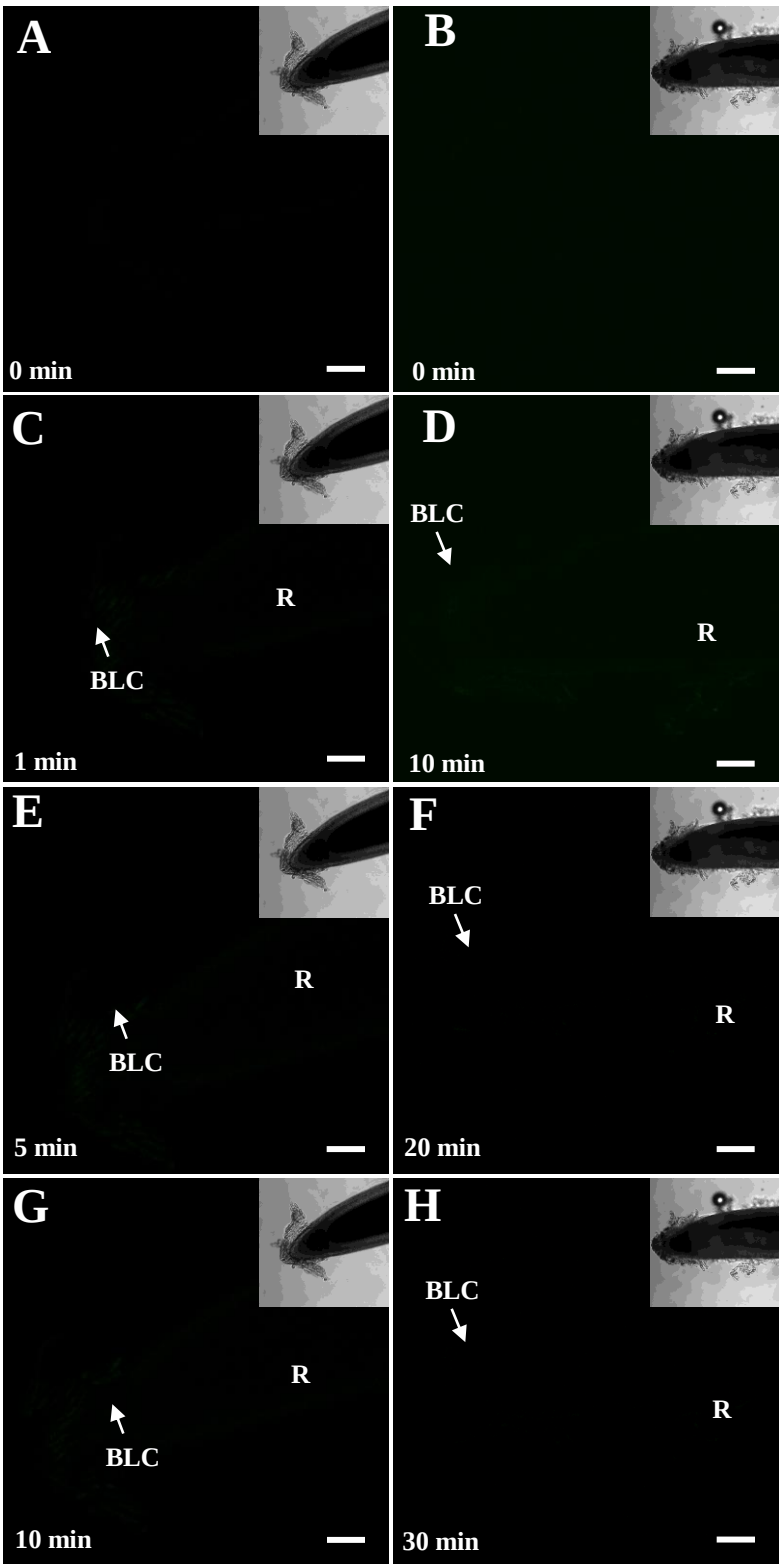


Supplemental Figure 5: Time course production of ROS by root border-like cells of flax after treatment with 1µM flg22. Staining of the overall ROS with the fluorescent probe CM-H_2DCFDA (A,C,E,G). Staining of singlet oxygen with the fluorescent probe SOSG (B,D,F,H). Observations are made by laser confocal scanning microscopy. Arrows point to BLC. Fluorescence indicates the presence of ROS.

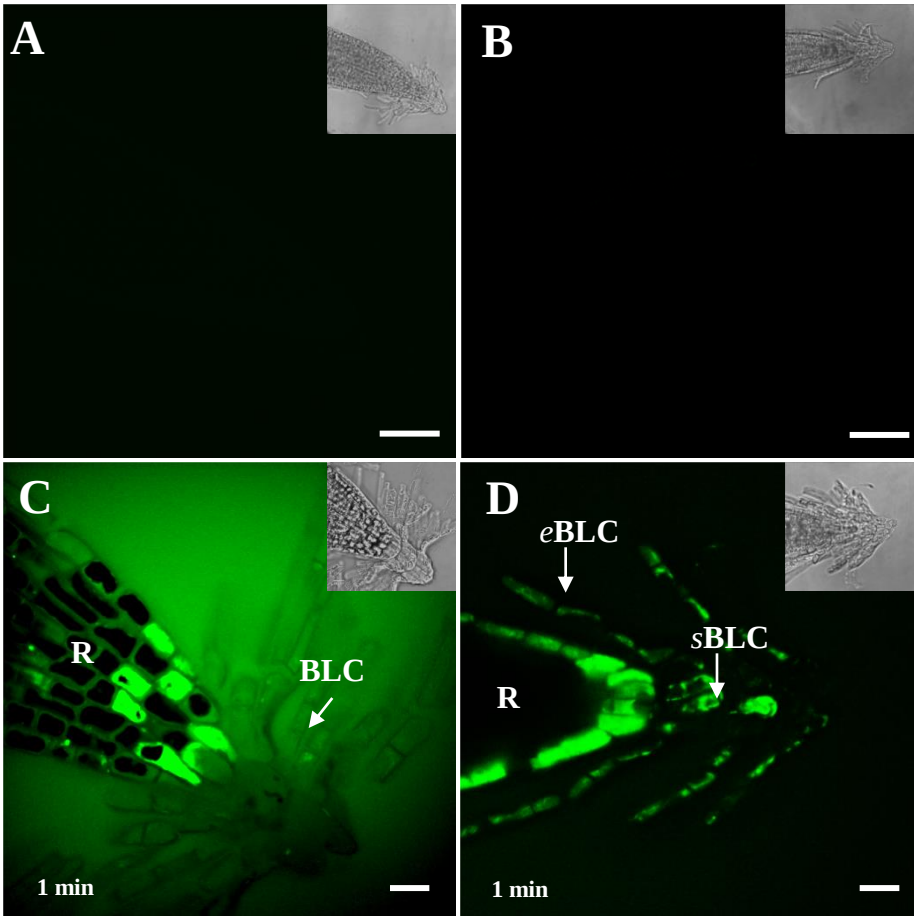
BLC: Border-like cells; *e*BLC: elongated border-like cells; *s*BLC: spherical border-like cells; R: root. Scale bars: 100 µm (A-F,H), 40 µm (G).



Supplemental Figure 6: Negative control for ROS production by root border-like cells of *A. thaliana* after treatment with buffer only. Staining of ROS with the fluorescent probe CM-H_2DCFDA (A,C,E,G) and of singlet oxygen with the probe SOSG (B,D,F,H). Note the absence of fluorescence in all samples. Arrows point to BLC.
BLC: Border-like cells; R: root. Scale bars: 40 μm (A-H).

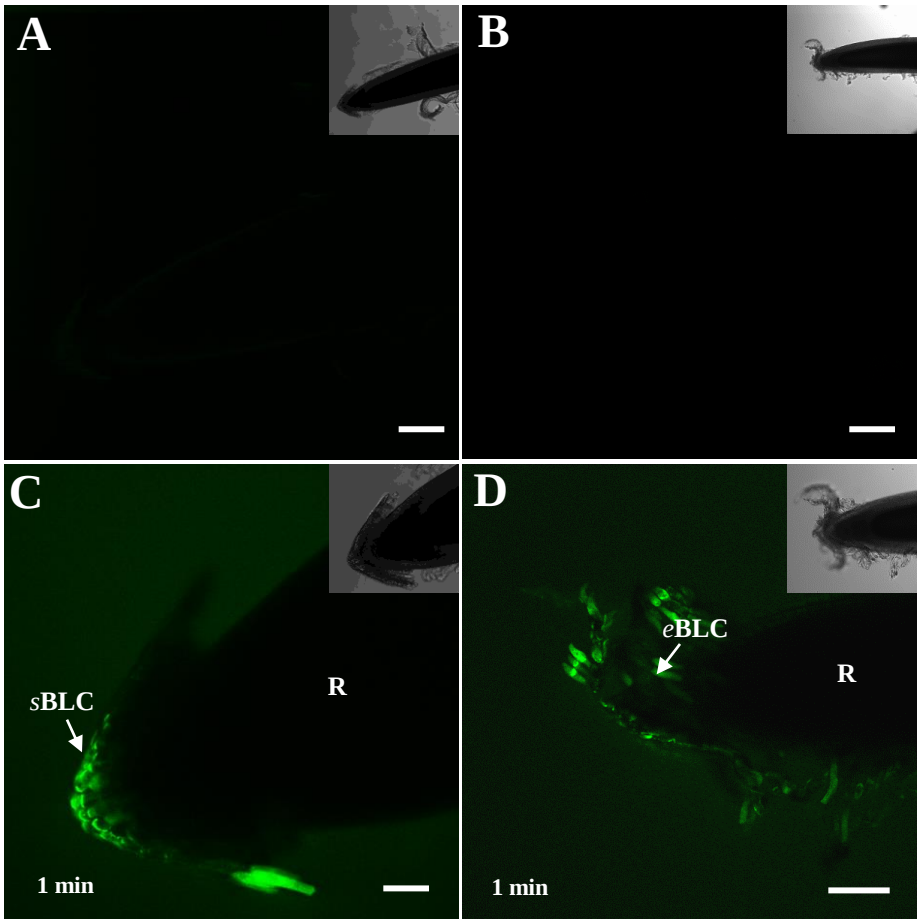


Supplemental Figure 7: Negative controls for production of ROS by root border-like cells from flax after treatment with buffer only. Staining of ROS with the probe CM-H_2DCFDA (A,C,E,G) and staining of singlet oxygen with the fluorescent probe SOSG (B,D,F,H). Arrows point to BLC. Note the absence of fluorescence in all samples.
BLC: Border-like cells; R: root. Scale bars : 100 μm (A-H).

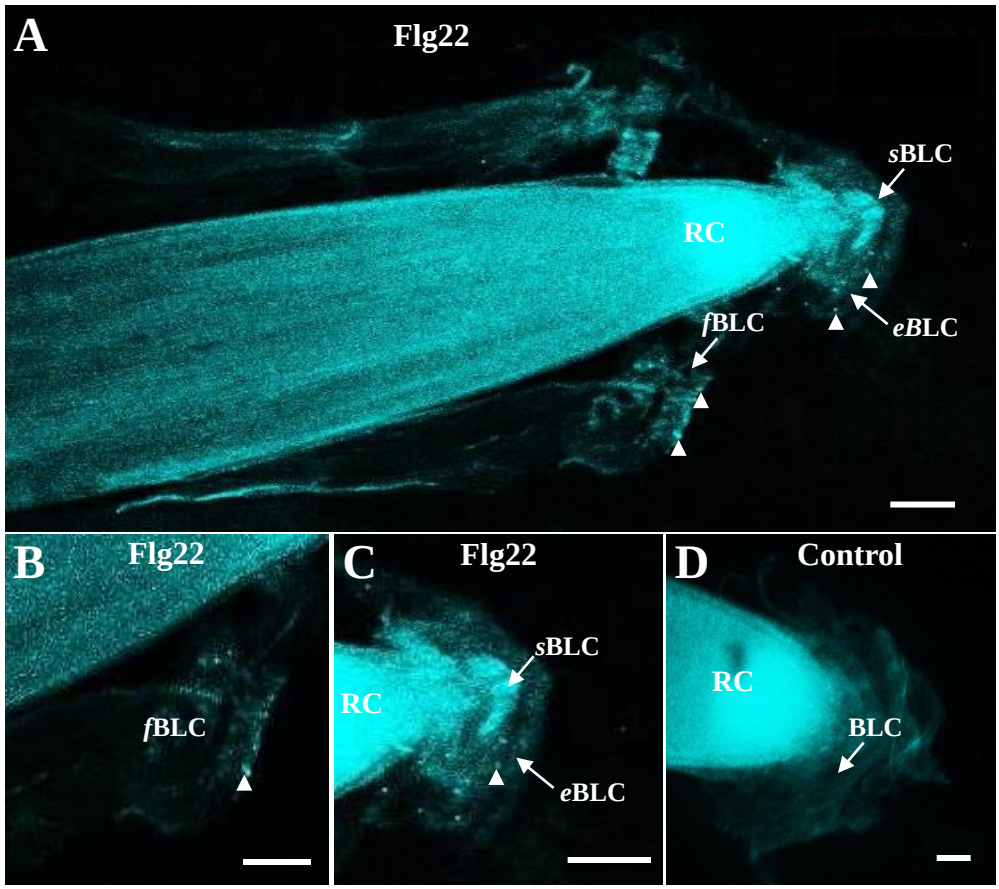


Supplemental Figure 8: Positive controls for ROS production by root border-like cells of *A. thaliana* after treatment with 1% of bleach. No bleach treatment in A and B. Bleach is known to induce ROS formation. Staining of ROS with the fluorescent probe CM-H_2DCFD (A,C) and of singlet oxygen with the fluorescent probe SOSG (B,D) Fluorescence indicates the presence of ROS. Note the rapid response of both root and root border-like cells. Arrows point to BLC.

BLC: Border-like cells; *e*BLC: Elongated border-like cells; *s*BLC: Spherical border-like cells; R: root. Scale bars: 40 μm (A-H).

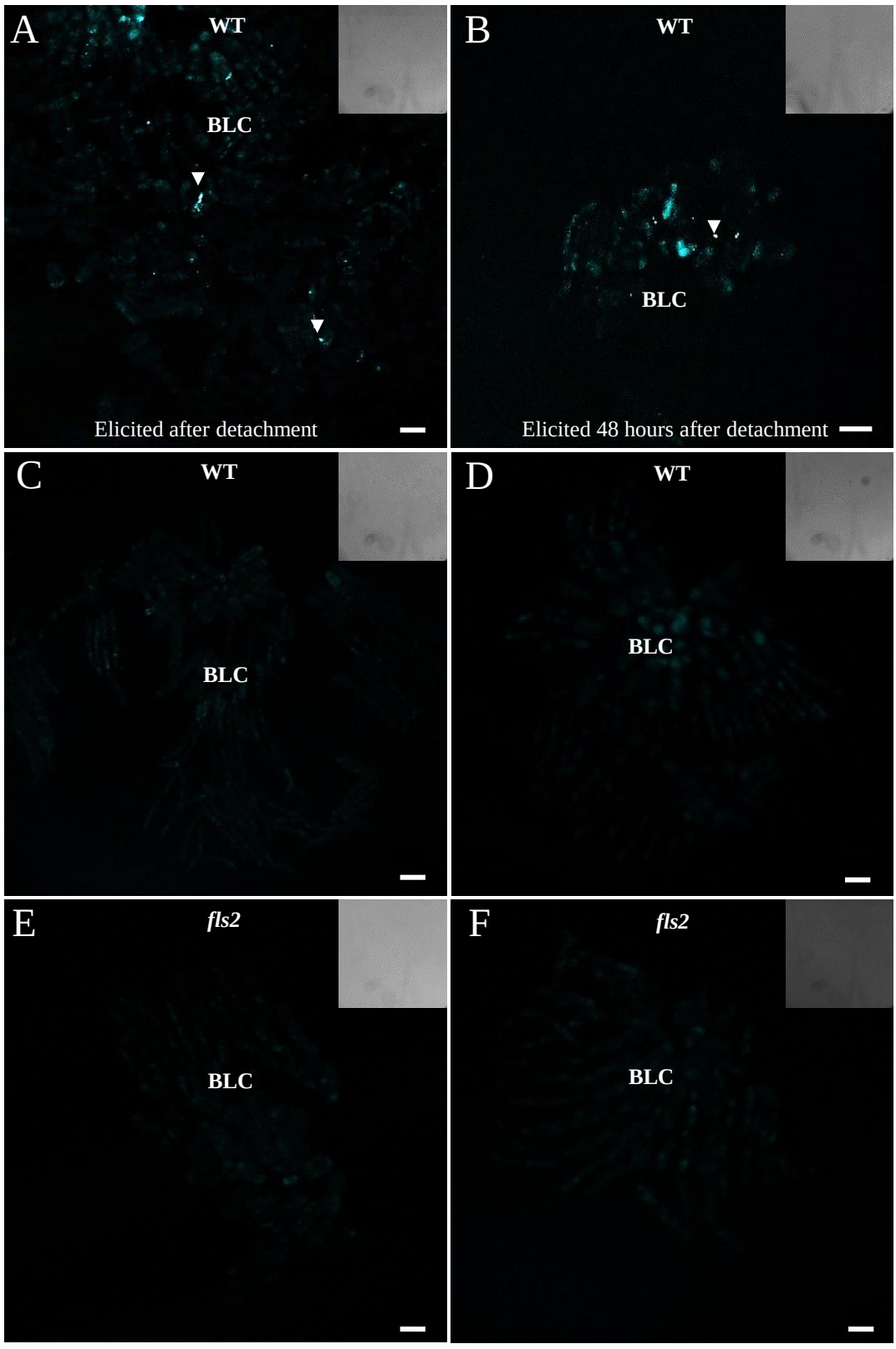


Supplemental Figure 9: Positive controls for ROS production in root border-like cells from flax treated with 1% bleach (C,D). No bleach treatment in A and B. Bleach is known to induce ROS formation. Staining of ROS with the probe CM-H_2DCFDA (A,C) and staining of the of singlet oxygen with the probe SOSG (B,D). Fluorescence indicates the presence of ROS. Note the rapid response in both root and root border-like cells.
BLC: Border-like cells; *e*BLC: Elongated border-like cells; *s*BLC: Spherical border-like cells; R: root. Scale bars: 100 µm (A,B), 50 µm (C,D).



Supplemental Figure 10: Elicited-deposition of callose detected by aniline blue staining in root border-like cells of flax. Flax root tips treated with 1µM flg22 (A, B, C) or with buffer only (D). Small fluorescent spots are detectable in elicited-root border-like cells. Arrowheads indicate callose deposition. Arrows point to BLC. Please note that only few filamentous border-like cells are stained with aniline blue.

*e*BLC: elongated border-like cells; *f*BLC: filamentous border-like cells; RC, root cap; *s*BLC: spherical border-like cells. Scale bars: 100 µm (A, B, C), 20 µm (D).



Supplemental Figure 11: Elicited-deposition of callose detected by aniline blue staining in detached root border-like cells of Arabidopsis. Freshly released Arabidospsis root border-like cells (A, C, E)) and root border-like cells 48h after their release from the root cap (B, D, F). Root border-cells are treated with 1µM flg22 (A, B, E, F) or with buffer only (C, D). Small fluorescent spots are detectable in detached elicited-root border-like cells. Detached root border-like cells of *fls2* mutant (E, F) do not shwo no fluorescence. Arrowheads indicate callose deposition. Arrows point to BLC.
BLC: Border Like-Cells. Scale bars: 20 µm (A, E).

Supplemental Table 1: Production of root border-like cells in flax. Number of BLC per roots of 2 to 7 day-old seedlings.
Means are calculated from 8 <n<24 seedlings.

Seedling age (day)	2 n=8	4 n=8	5 n=24	6 n=16	7 n=16
Number of border-like cells	416 ± 14	4359 ±301	5586± 916	8250±2308	7512±1863

Supplemental Table 2: Morphological features of root border-like cells from flax. *s*BLC: spherical border-like cells; *e*BLC: elongated border-like cells; *f*BLC: filamentous border-like cells.

Cellular type	*s*BLC	*e*BLC	*f*BLC
Cell lenght (µm) n=15	23,96 ± 8,16	53,97 ± 8,25	184,25 ± 39,21
Cell width (µm) n=15	14,48 ± 3,38	27,84 ± 6,54	7,45 ± 1,57

Supplemental Table 3: Production of ROS in root border-like cells flax in responses to fungal elicitors. Fluorescence indicates the presence of ROS. The values indicate the time for fluorescence appearance after the beginning of the kinetics of elicitation.

Elicitors	Fluorescents probes	Time
Fusarium Oxysporum extract	CM-H_2DCFDA	10 min
	SOSG	1 min
Fusaric Acid	CM-H_2DCFDA	10 min
	SOSG	1 min

Supplemental Table 4 : Production of ROS in root border-like cells *Arabidopsis thaliana* in responses to fungal elicitors. Fluorescence indicates the presence of ROS. The values indicate the time for fluorescence appearance after the beginning of the kinetics of elicitation.

Elicitors	Fluorescents probes	Time
Fusarium Oxysporum extract	CM-H_2DCFDA	15 min
	SOSG	1 min
Chitin	CM-H_2DCFDA	15 min
	SOSG	1 min