

#### **0 - Control plants, Group Kudla**

The plants were treated like the treated plants; e.g.: Transfer of Magenta boxes out of the climate chamber. Opening of the boxes and lifting the raft as long as the treatments last. Then boxes were transferred back to the climate chamber.

#### **1 - Cold stress (4°C), Group Kudla**

The Magenta boxes were placed on ice in the cold room (4°C). The environmental light intensity was 20  $\mu$ Einstein/cm<sup>2</sup> sec. An extra light which was installed over the plants had 40  $\mu$ Einstein/cm<sup>2</sup> sec. The plants stayed there.

#### **2 - Osmotic stress , Group Kudla**

Mannitol was added to a concentration of 300 mM in the Media. To add Mannitol the raft was lifted out A magnetic stir bar and a stirrer were used to mix the media and the added Mannitol. After the rafts were put back in the boxes, they were transferred back to the climate chamber.

#### **3 - Salt stress, Group Kudla**

NaCl was added to a concentration of 150 mM in the Media. To add NaCl the raft was lifted out. A magnetic stir bar and a stirrer were used to mix the media and the added NaCl. After the rafts were put back in the boxes, they were transferred back to the climate chamber.

#### **4 - Drought stress, Group Kudla**

The plants were stressed by 15 min. dry air stream (clean bench) until 10% loss of fresh weight; then incubation in closed vessels in the climate chamber.

#### **5 - Genotoxic stress, Group Puchta**

Bleomycin + mitomycin (1.5  $\mu$ g/ml bleomycin + 22  $\mu$ g/ml mitomycin), were added to the indicated concentration in the Media. To add the reagents the raft was lifted out A magnetic stir bar and a stirrer were used to mix the media and the added reagents. After the rafts were put back in the boxes, they were transferred back to the climate chamber.

#### **6 - Oxidative stress , Group Bartels**

Methyl Viologen was added to a final concentration of 10  $\mu$ M in the Media. To add the reagent the raft was lifted out A magnetic stir bar and a stirrer were used to mix the media and the added reagent. After the rafts were put back in the boxes, they were transferred back to the climate chamber.

#### **7 - UV-B stress, Group Harter**

15 min. 1.18 W/m<sup>2</sup> Philips TL40W/12

#### **8 - Wounding stress, Group Harter**

Punctured with pins

#### **8 - Heat stress, Group Nover/von Koskull-Döring**

38°C, samples taken at 0.25, 0.5, 1.0, 3.0h of hs and +1, +3, +9, +21h recovery at 25°C

#### **C - Heat stressed suspension culture, Group Nover/von Koskull-Döring**

38°C, samples taken at 0.25, 0.5, 1.0, 3.0h of hs and +1, +3, +9, +21h recovery at 25°C

<b>Code</b>	<b>Treatment</b>	<b>Time point</b>	<b>Organ</b>	<b>Sample</b>
0011	Control	0 h	Shoots	1
0012	Control	0 h	Shoots	2
0021	Control	0 h	Roots	1
0022	Control	0 h	Roots	2
0711	Control	0.25 h	Shoots	1
0712	Control	0.25 h	Shoots	2
0721	Control	0.25 h	Roots	1
0722	Control	0.25 h	Roots	2
0111	Control	0.5 h	Shoots	1
0112	Control	0.5 h	Shoots	2
0121	Control	0.5 h	Roots	1
0122	Control	0.5 h	Roots	2
0211	Control	1.0 h	Shoots	1
0212	Control	1.0 h	Shoots	2
0221	Control	1.0 h	Roots	1
0222	Control	1.0 h	Roots	2
0311	Control	3.0 h	Shoots	1
0312	Control	3.0 h	Shoots	2
0321	Control	3.0 h	Roots	1
0322	Control	3.0 h	Roots	2
0811	Control	4.0 h	Shoots	1
0812	Control	4.0 h	Shoots	2
0821	Control	4.0 h	Roots	1
0822	Control	4.0 h	Roots	2
0411	Control	6.0 h	Shoots	1
0412	Control	6.0 h	Shoots	2
0421	Control	6.0 h	Roots	1
0422	Control	6.0 h	Roots	2
0511	Control	12.0 h	Shoots	1
0512	Control	12.0 h	Shoots	2
0521	Control	12.0 h	Roots	1
0522	Control	12.0 h	Roots	2
0611	Control	24.0 h	Shoots	1
0612	Control	24.0 h	Shoots	2
0621	Control	24.0 h	Roots	1
0622	Control	24.0 h	Roots	2
1111	Cold (4°C)	0.5 h	Shoots	1
1112	Cold (4°C)	0.5 h	Shoots	2
1121	Cold (4°C)	0.5 h	Roots	1
1122	Cold (4°C)	0.5 h	Roots	2
1211	Cold (4°C)	1.0 h	Shoots	1
1212	Cold (4°C)	1.0 h	Shoots	2
1221	Cold (4°C)	1.0 h	Roots	1
1222	Cold (4°C)	1.0 h	Roots	2
1311	Cold (4°C)	3.0 h	Shoots	1
1312	Cold (4°C)	3.0 h	Shoots	2
1321	Cold (4°C)	3.0 h	Roots	1
1322	Cold (4°C)	3.0 h	Roots	2
1411	Cold (4°C)	6.0 h	Shoots	1

1412	Cold (4°C)	6.0 h	Shoots	2
1421	Cold (4°C)	6.0 h	Roots	1
1422	Cold (4°C)	6.0 h	Roots	2
1511	Cold (4°C)	12.0 h	Shoots	1
1512	Cold (4°C)	12.0 h	Shoots	2
1521	Cold (4°C)	12.0 h	Roots	1
1522	Cold (4°C)	12.0 h	Roots	2
1611	Cold (4°C)	24.0 h	Shoots	1
1612	Cold (4°C)	24.0 h	Shoots	2
1621	Cold (4°C)	24.0 h	Roots	1
1622	Cold (4°C)	24.0 h	Roots	2
2111	Osmotic stress	0.5 h	Shoots	1
2112	Osmotic stress	0.5 h	Shoots	2
2121	Osmotic stress	0.5 h	Roots	1
2122	Osmotic stress	0.5 h	Roots	2
2211	Osmotic stress	1.0 h	Shoots	1
2212	Osmotic stress	1.0 h	Shoots	2
2221	Osmotic stress	1.0 h	Roots	1
2222	Osmotic stress	1.0 h	Roots	2
2311	Osmotic stress	3.0 h	Shoots	1
2312	Osmotic stress	3.0 h	Shoots	2
2321	Osmotic stress	3.0 h	Roots	1
2322	Osmotic stress	3.0 h	Roots	2
2411	Osmotic stress	6.0 h	Shoots	1
2412	Osmotic stress	6.0 h	Shoots	2
2421	Osmotic stress	6.0 h	Roots	1
2422	Osmotic stress	6.0 h	Roots	2
2511	Osmotic stress	12.0 h	Shoots	1
2512	Osmotic stress	12.0 h	Shoots	2
2521	Osmotic stress	12.0 h	Roots	1
2522	Osmotic stress	12.0 h	Roots	2
2611	Osmotic stress	24.0 h	Shoots	1
2612	Osmotic stress	24.0 h	Shoots	2
2621	Osmotic stress	24.0 h	Roots	1
2622	Osmotic stress	24.0 h	Roots	2
3111	Salt stress	0.5 h	Shoots	1
3112	Salt stress	0.5 h	Shoots	2
3121	Salt stress	0.5 h	Roots	1
3122	Salt stress	0.5 h	Roots	2
3211	Salt stress	1.0 h	Shoots	1
3212	Salt stress	1.0 h	Shoots	2
3221	Salt stress	1.0 h	Roots	1
3222	Salt stress	1.0 h	Roots	2
3311	Salt stress	3.0 h	Shoots	1
3312	Salt stress	3.0 h	Shoots	2
3321	Salt stress	3.0 h	Roots	1
3322	Salt stress	3.0 h	Roots	2
3411	Salt stress	6.0 h	Shoots	1
3412	Salt stress	6.0 h	Shoots	2
3421	Salt stress	6.0 h	Roots	1

3422	Salt stress	6.0 h	Roots	2
3511	Salt stress	12.0 h	Shoots	1
3512	Salt stress	12.0 h	Shoots	2
3521	Salt stress	12.0 h	Roots	1
3522	Salt stress	12.0 h	Roots	2
3611	Salt stress	24.0 h	Shoots	1
3612	Salt stress	24.0 h	Shoots	2
3621	Salt stress	24.0 h	Roots	1
3622	Salt stress	24.0 h	Roots	2
4711	Drought stress	0.25 h	Shoots	1
4712	Drought stress	0.25 h	Shoots	2
4721	Drought stress	0.25 h	Roots	1
4722	Drought stress	0.25 h	Roots	2
4111	Drought stress	0.5 h	Shoots	1
4112	Drought stress	0.5 h	Shoots	2
4121	Drought stress	0.5 h	Roots	1
4122	Drought stress	0.5 h	Roots	2
4211	Drought stress	1.0 h	Shoots	1
4212	Drought stress	1.0 h	Shoots	2
4221	Drought stress	1.0 h	Roots	1
4222	Drought stress	1.0 h	Roots	2
4311	Drought stress	3.0 h	Shoots	1
4312	Drought stress	3.0 h	Shoots	2
4321	Drought stress	3.0 h	Roots	1
4322	Drought stress	3.0 h	Roots	2
4411	Drought stress	6.0 h	Shoots	1
4412	Drought stress	6.0 h	Shoots	2
4421	Drought stress	6.0 h	Roots	1
4422	Drought stress	6.0 h	Roots	2
4511	Drought stress	12.0 h	Shoots	1
4512	Drought stress	12.0 h	Shoots	2
4521	Drought stress	12.0 h	Roots	1
4522	Drought stress	12.0 h	Roots	2
4611	Drought stress	24.0 h	Shoots	1
4612	Drought stress	24.0 h	Shoots	2
4621	Drought stress	24.0 h	Roots	1
4622	Drought stress	24.0 h	Roots	2
5111	Genotoxic stress	0.5 h	Shoots	1
5112	Genotoxic stress	0.5 h	Shoots	2
5121	Genotoxic stress	0.5 h	Roots	1
5122	Genotoxic stress	0.5 h	Roots	2
5211	Genotoxic stress	1.0 h	Shoots	1
5212	Genotoxic stress	1.0 h	Shoots	2
5221	Genotoxic stress	1.0 h	Roots	1
5222	Genotoxic stress	1.0 h	Roots	2
5311	Genotoxic stress	3.0 h	Shoots	1
5312	Genotoxic stress	3.0 h	Shoots	2
5321	Genotoxic stress	3.0 h	Roots	1
5322	Genotoxic stress	3.0 h	Roots	2
5411	Genotoxic stress	6.0 h	Shoots	1

5412	Genotoxic stress	6.0 h	Shoots	2
5421	Genotoxic stress	6.0 h	Roots	1
5422	Genotoxic stress	6.0 h	Roots	2
5511	Genotoxic stress	12.0 h	Shoots	1
5512	Genotoxic stress	12.0 h	Shoots	2
5521	Genotoxic stress	12.0 h	Roots	1
5522	Genotoxic stress	12.0 h	Roots	2
5611	Genotoxic stress	24.0 h	Shoots	1
5612	Genotoxic stress	24.0 h	Shoots	2
5621	Genotoxic stress	24.0 h	Roots	1
5622	Genotoxic stress	24.0 h	Roots	2
6111	Oxidative stress	0.5 h	Shoots	1
6112	Oxidative stress	0.5 h	Shoots	2
6124	Oxidative stress	0.5 h	Roots	1
6122	Oxidative stress	0.5 h	Roots	2
6211	Oxidative stress	1.0 h	Shoots	1
6212	Oxidative stress	1.0 h	Shoots	2
6223	Oxidative stress	1.0 h	Roots	1
6224	Oxidative stress	1.0 h	Roots	2
6311	Oxidative stress	3.0 h	Shoots	1
6312	Oxidative stress	3.0 h	Shoots	2
6323	Oxidative stress	3.0 h	Roots	1
6322	Oxidative stress	3.0 h	Roots	2
6411	Oxidative stress	6.0 h	Shoots	1
6412	Oxidative stress	6.0 h	Shoots	2
6421	Oxidative stress	6.0 h	Roots	1
6422	Oxidative stress	6.0 h	Roots	2
6511	Oxidative stress	12.0 h	Shoots	1
6512	Oxidative stress	12.0 h	Shoots	2
6523	Oxidative stress	12.0 h	Roots	1
6524	Oxidative stress	12.0 h	Roots	2
6611	Oxidative stress	24.0 h	Shoots	1
6612	Oxidative stress	24.0 h	Shoots	2
6621	Oxidative stress	24.0 h	Roots	1
6622	Oxidative stress	24.0 h	Roots	2
7711	UV-B stress	0.25 h	Shoots	1
7712	UV-B stress	0.25 h	Shoots	2
7721	UV-B stress	0.25 h	Roots	1
7722	UV-B stress	0.25 h	Roots	2
7111	UV-B stress	0.5 h	Shoots	1
7112	UV-B stress	0.5 h	Shoots	2
7121	UV-B stress	0.5 h	Roots	1
7122	UV-B stress	0.5 h	Roots	2
7211	UV-B stress	1.0 h	Shoots	1
7212	UV-B stress	1.0 h	Shoots	2
7221	UV-B stress	1.0 h	Roots	1
7222	UV-B stress	1.0 h	Roots	2
7311	UV-B stress	3.0 h	Shoots	1
7312	UV-B stress	3.0 h	Shoots	2
7321	UV-B stress	3.0 h	Roots	1

7322	UV-B stress	3.0 h	Roots	2
7411	UV-B stress	6.0 h	Shoots	1
7412	UV-B stress	6.0 h	Shoots	2
7421	UV-B stress	6.0 h	Roots	1
7422	UV-B stress	6.0 h	Roots	2
7511	UV-B stress	12.0 h	Shoots	1
7512	UV-B stress	12.0 h	Shoots	2
7521	UV-B stress	12.0 h	Roots	1
7522	UV-B stress	12.0 h	Roots	2
7611	UV-B stress	24.0 h	Shoots	1
7612	UV-B stress	24.0 h	Shoots	2
7621	UV-B stress	24.0 h	Roots	1
7622	UV-B stress	24.0 h	Roots	2
8715	Wounding stress	0.25 h	Shoots	1
8712	Wounding stress	0.25 h	Shoots	2
8723	Wounding stress	0.25 h	Roots	1
8724	Wounding stress	0.25 h	Roots	2
8111	Wounding stress	0.5 h	Shoots	1
8112	Wounding stress	0.5 h	Shoots	2
8124	Wounding stress	0.5 h	Roots	1
8126	Wounding stress	0.5 h	Roots	2
8211	Wounding stress	1.0 h	Shoots	1
8214	Wounding stress	1.0 h	Shoots	2
8224	Wounding stress	1.0 h	Roots	1
8225	Wounding stress	1.0 h	Roots	2
8313	Wounding stress	3.0 h	Shoots	1
8314	Wounding stress	3.0 h	Shoots	2
8324	Wounding stress	3.0 h	Roots	1
8325	Wounding stress	3.0 h	Roots	2
8411	Wounding stress	6.0 h	Shoots	1
8412	Wounding stress	6.0 h	Shoots	2
8423	Wounding stress	6.0 h	Roots	1
8424	Wounding stress	6.0 h	Roots	2
8511	Wounding stress	12.0 h	Shoots	1
8512	Wounding stress	12.0 h	Shoots	2
8524	Wounding stress	12.0 h	Roots	1
8525	Wounding stress	12.0 h	Roots	2
8611	Wounding stress	24.0 h	Shoots	1
8612	Wounding stress	24.0 h	Shoots	2
8624	Wounding stress	24.0 h	Roots	1
8624 repl 8623	Wounding stress	24.0 h	Roots	2
9711	Heat stress	0.25 h	Shoots	1
9712	Heat stress	0.25 h	Shoots	2
9721	Heat stress	0.25 h	Roots	1
9722	Heat stress	0.25 h	Roots	2
9111	Heat stress	0.5 h	Shoots	1
9112	Heat stress	0.5 h	Shoots	2
9121	Heat stress	0.5 h	Roots	1
9122	Heat stress	0.5 h	Roots	2
9211	Heat stress	1.0 h	Shoots	1

9212	Heat stress	1.0 h	Shoots	2
9221	Heat stress	1.0 h	Roots	1
9222	Heat stress	1.0 h	Roots	2
9311	Heat stress	3.0 h	Shoots	1
9312	Heat stress	3.0 h	Shoots	2
9321	Heat stress	3.0 h	Roots	1
9322	Heat stress	3.0 h	Roots	2
9811	Heat stress (3h) + 1h recovery	4.0 h	Shoots	1
9812	Heat stress (3h) + 1h recovery	4.0 h	Shoots	2
9821	Heat stress (3h) + 1h recovery	4.0 h	Roots	1
9822	Heat stress (3h) + 1h recovery	4.0 h	Roots	2
9411	Heat stress (3h) + 3h recovery	6.0 h	Shoots	1
9412	Heat stress (3h) + 3h recovery	6.0 h	Shoots	2
9421	Heat stress (3h) + 3h recovery	6.0 h	Roots	1
9422	Heat stress (3h) + 3h recovery	6.0 h	Roots	2
9511	Heat stress (3h) + 9h recovery	12.0 h	Shoots	1
9512	Heat stress (3h) + 9h recovery	12.0 h	Shoots	2
9521	Heat stress (3h) + 9h recovery	12.0 h	Roots	1
9522	Heat stress (3h) + 9h recovery	12.0 h	Roots	2
9611	Heat stress (3h) + 21h recovery	24.0 h	Shoots	1
9612	Heat stress (3h) + 21h recovery	24.0 h	Shoots	2
9621	Heat stress (3h) + 21h recovery	24.0 h	Roots	1
9622	Heat stress (3h) + 21h recovery	24.0 h	Roots	2
C0_1	Control	0 h	Cell culture	1
C0_2	Control	0 h	Cell culture	2
C1_1	Control	3.0 h	Cell culture	1
C1_2	Control	3.0 h	Cell culture	2
C2_1	Control	6.0 h	Cell culture	1
C2_2	Control	6.0 h	Cell culture	2
C3_1	Control	12.0 h	Cell culture	1
C3_2	Control	12.0 h	Cell culture	2
C4_1	Control	24.0 h	Cell culture	1
C4_2	Control	24.0 h	Cell culture	2
C5_1	Heat stress	0.25 h	Cell culture	1
C5_2	Heat stress	0.25h	Cell culture	2
C6_1	Heat stress	0.5 h	Cell culture	1
C6_2	Heat stress	0.5 h	Cell culture	2
C7_1	Heat stress	1.0 h	Cell culture	1
C7_2	Heat stress	1.0 h	Cell culture	2
C8_1	Heat stress	3.0 h	Cell culture	1
C8_2	Heat stress	3.0 h	Cell culture	2
C9_1	Heat stress (3h) + 1h recovery	4.0 h	Cell culture	1
C9_2	Heat stress (3h) + 1h recovery	4.0 h	Cell culture	2
C10_1	Heat stress (3h) + 3h recovery	6.0 h	Cell culture	1
C10_2	Heat stress (3h) + 3h recovery	6.0 h	Cell culture	2
C11_1	Heat stress (3h) + 9h recovery	12.0 h	Cell culture	1
C11_2	Heat stress (3h) + 9h recovery	12.0 h	Cell culture	2
C12_1	Heat stress (3h) + 21h recovery	24.0 h	Cell culture	1
C12_2	Heat stress (3h) + 21h recovery	24.0 h	Cell culture	2