

Table S1 DAS-ELISA data of Kefeng-1 and NN-1138 inoculated with SMV-SC4

Materials	OD (405 nm)				Sample OD/Negative control OD	Result
	1	2	3	Mean		
KF-1	0.108900003	0.1105	0.109099999	0.109500001	0.986190345	Negative
KF-2	0.110699996	0.110299997	0.111000001	0.110666665	0.996697677	Negative
KF-3	0.109899998	0.110100001	0.119800001	0.113266667	1.020114085	Negative
NN-1	1.374000013	1.407999992	1.392500003	1.391500003	12.53227267	Positive
NN-2	1.395916641	1.469499966	1.536250015	1.467222207	13.2142499	Positive
NN-3	1.156833371	1.273166637	1.223916709	1.217972239	10.9694288	Positive
Negative control	0.111199997	0.109300002	0.112599999	0.111033333		
Positive control	1.640900016	1.552999973	1.464699984	1.552866658		
Blank control	0.110699996	0.1083	0.107199997	0.108733331		

Supplementary Table S2. The average coverage of clean data across 24 samples reached 99.73%

Sample	Raw Data	Clean Data (%)	Adapter (%)	Low Quality (%)	polyA (%)	N (%)
KF-0h-1	43869560	43759988(99.75%)	13760 (0.03%)	95812 (0.22%)	0 (0.00%)	0 (0.00%)
KF-0h-2	47802072	47681426(99.75%)	13822 (0.03%)	106824 (0.22%)	0 (0.00%)	0 (0.00%)
KF-0h-3	43183252	43051336(99.69%)	12058 (0.03%)	119858 (0.28%)	0 (0.00%)	0 (0.00%)
KF-6h-1	45194942	45091982(99.77%)	19084 (0.04%)	83876 (0.19%)	0 (0.00%)	0 (0.00%)
KF-6h-2	51373328	51259342(99.78%)	15944 (0.03%)	98042 (0.19%)	0 (0.00%)	0 (0.00%)
KF-6h-3	89236674	89002196(99.74%)	32212 (0.04%)	202266 (0.23%)	0 (0.00%)	0 (0.00%)
KF-24h-1	46193226	46057500(99.71%)	18504 (0.04%)	117222 (0.25%)	0 (0.00%)	0 (0.00%)
KF-24h-2	41867358	41741570(99.70%)	16204 (0.04%)	109584 (0.26%)	0 (0.00%)	0 (0.00%)
KF-24h-3	39059968	38954588(99.73%)	11906 (0.03%)	93474 (0.24%)	0 (0.00%)	0 (0.00%)
KF-48h-1	42721720	42600802(99.72%)	13486 (0.03%)	107432 (0.25%)	0 (0.00%)	0 (0.00%)
KF-48h-2	38226304	38116764(99.71%)	10688 (0.03%)	98852 (0.26%)	0 (0.00%)	0 (0.00%)
KF-48h-3	42835094	42712252(99.71%)	11672 (0.03%)	111170 (0.26%)	0 (0.00%)	0 (0.00%)
NN-0h-1	43462028	43360734(99.77%)	13366 (0.03%)	87928 (0.20%)	0 (0.00%)	0 (0.00%)
NN-0h-2	39709196	39603242(99.73%)	12344 (0.03%)	93610 (0.24%)	0 (0.00%)	0 (0.00%)
NN-0h-3	47202890	47093406(99.77%)	12036 (0.03%)	97448 (0.21%)	0 (0.00%)	0 (0.00%)
NN-6h-1	45525902	45432094(99.79%)	14644 (0.03%)	79164 (0.17%)	0 (0.00%)	0 (0.00%)
NN-6h-2	69711664	69536566(99.75%)	21902 (0.03%)	153196 (0.22%)	0 (0.00%)	0 (0.00%)
NN-6h-3	44937066	44819940(99.74%)	16222 (0.04%)	100904 (0.22%)	0 (0.00%)	0 (0.00%)
NN-24h-1	47456146	47350706(99.78%)	10438 (0.02%)	95002 (0.20%)	0 (0.00%)	0 (0.00%)
NN-24h-2	46525146	46331604(99.58%)	23416 (0.05%)	170126 (0.37%)	0 (0.00%)	0 (0.00%)
NN-24h-3	42091484	41979274(99.73%)	12438 (0.03%)	99772 (0.24%)	0 (0.00%)	0 (0.00%)
NN-48h-1	41714832	41568696(99.65%)	11764 (0.03%)	134372 (0.32%)	0 (0.00%)	0 (0.00%)
NN-48h-2	48586746	48442968(99.70%)	12026 (0.02%)	131752 (0.27%)	0 (0.00%)	0 (0.00%)
NN-48h-3	43534374	43396234(99.68%)	11960 (0.03%)	126180 (0.29%)	0 (0.00%)	0 (0.00%)

Supplementary Table S3. The GC content after filtration ranged from 41.95% to 44.50%, and the Q30 score for each sample exceeded 93.24%

Sample	RawData (bp)	BF_Q30 (%)	BF_GC (%)	Clean Data (bp)	AF_Q30 (%)	AF_GC (%)
KF-0h-1	6580434000	6171783073 (93.79%)	2926157537 (44.47%)	6521524111	6125389002 (93.93%)	2894457987 (44.38%)
KF-0h-2	7170310800	6706999302 (93.54%)	3166927685 (44.17%)	7119707276	6669332308 (93.67%)	3139917654 (44.10%)
KF-0h-3	6477487800	6029473097 (93.08%)	2887203360 (44.57%)	6426889206	5992683545 (93.24%)	2860269086 (44.50%)
KF-6h-1	6779241300	6366724786 (93.92%)	2956399109 (43.61%)	6696948688	6298420761 (94.05%)	2912961523 (43.50%)
KF-6h-2	7705999200	7234881039 (93.89%)	3291458839 (42.71%)	7631012472	7174519031 (94.02%)	3252929130 (42.63%)
KF-6h-3	13385501100	12566983346 (93.89%)	5774456005 (43.14%)	13250363206	12458541171 (94.02%)	5702958554 (43.04%)
KF-24h-1	6928983900	6513032848 (94.00%)	2916260835 (42.09%)	6843615140	6443331026 (94.15%)	2870644265 (41.95%)
KF-24h-2	6280103700	5874859053 (93.55%)	2678412793 (42.65%)	6211754912	5821277527 (93.71%)	2641622557 (42.53%)
KF-24h-3	5858995200	5492749358 (93.75%)	2503167677 (42.72%)	5802752444	5448193848 (93.89%)	2473331130 (42.62%)
KF-48h-1	6408258000	6007913451 (93.75%)	2811697233 (43.88%)	6350749144	5964074982 (93.91%)	2780696033 (43.79%)
KF-48h-2	5733945600	5376093679 (93.76%)	2494576637 (43.51%)	5684104512	5338250316 (93.92%)	2468109558 (43.42%)
KF-48h-3	6425264100	6032005910 (93.88%)	2817797429 (43.85%)	6371783176	5991655472 (94.03%)	2788798192 (43.77%)
NN-0h-1	6519304200	6136655018 (94.13%)	2892371494 (44.37%)	6465480122	6094296543 (94.26%)	2863806201 (44.29%)
NN-0h-2	5956379400	5575012043 (93.60%)	2627658597 (44.12%)	5902288147	5533053967 (93.74%)	2598592690 (44.03%)
NN-0h-3	7080433500	6643936954 (93.84%)	3101623875 (43.81%)	7022695515	6599560492 (93.97%)	3071049785 (43.73%)
NN-6h-1	6828885300	6439572108 (94.30%)	2953786874 (43.25%)	6767205717	6389421647 (94.42%)	2921168573 (43.17%)
NN-6h-2	10456749600	9799220928 (93.71%)	4500852546 (43.04%)	10356537963	9719663823 (93.85%)	4447636051 (42.95%)
NN-6h-3	6740559900	6340705655 (94.07%)	2912778331 (43.21%)	6674274239	6287250577 (94.20%)	2876737260 (43.10%)
NN-24h-1	7118421900	6671487776 (93.72%)	3022571724 (42.46%)	7061009849	6626334598 (93.84%)	2992350052 (42.38%)
NN-24h-2	6978771900	6504293672 (93.20%)	3014487709 (43.20%)	6884799480	6431333350 (93.41%)	2962773290 (43.03%)
NN-24h-3	6313722600	5909082947 (93.59%)	2718678154 (43.06%)	6241639249	5851160040 (93.74%)	2680212325 (42.94%)
NN-48h-1	6257224800	5854306428 (93.56%)	2748463654 (43.92%)	6208289821	5820053817 (93.75%)	2721937045 (43.84%)
NN-48h-2	7288011900	6812775930 (93.48%)	3210537691 (44.05%)	7235134013	6775175465 (93.64%)	3182199641 (43.98%)
NN-48h-3	6530156100	6122483955 (93.76%)	2866697605 (43.90%)	6466751594	6074681765 (93.94%)	2832903880 (43.81%)

Supplementary Table S4. The average coverage across all samples

Sample	Total	Unmapped (%)	Unique_Mapped(%)	Multiple_Mapped(%)	Total_Mapped(%)
KF-0h-1	43628888	1391805 (3.19%)	40289092 (92.34%)	1947991 (4.46%)	42237083 (96.81%)
KF-0h-2	47552808	1758446 (3.70%)	43775388 (92.06%)	2018974 (4.25%)	45794362 (96.30%)
KF-0h-3	42924476	1504446 (3.50%)	39560242 (92.16%)	1859788 (4.33%)	41420030 (96.50%)
KF-6h-1	44323006	2032467 (4.59%)	40465259 (91.30%)	1825280 (4.12%)	42290539 (95.41%)
KF-6h-2	50543536	2186106 (4.33%)	46440110 (91.88%)	1917320 (3.79%)	48357430 (95.67%)
KF-6h-3	86560160	5277845 (6.10%)	77544651 (89.58%)	3737664 (4.32%)	81282315 (93.90%)
KF-24h-1	45197962	2173416 (4.81%)	41472233 (91.76%)	1552313 (3.43%)	43024546 (95.19%)
KF-24h-2	40796042	2043460 (5.01%)	37238864 (91.28%)	1513718 (3.71%)	38752582 (94.99%)
KF-24h-3	38374846	1562926 (4.07%)	35425570 (92.31%)	1386350 (3.61%)	36811920 (95.93%)
KF-48h-1	42450996	1492732 (3.52%)	39431706 (92.89%)	1526558 (3.60%)	40958264 (96.48%)
KF-48h-2	37987162	1314230 (3.46%)	35327003 (93.00%)	1345929 (3.54%)	36672932 (96.54%)
KF-48h-3	42590032	1450578 (3.41%)	39607737 (93.00%)	1531717 (3.60%)	41139454 (96.59%)
NN-0h-1	43257136	1367044 (3.16%)	40109968 (92.72%)	1780124 (4.12%)	41890092 (96.84%)
NN-0h-2	39473542	1312011 (3.32%)	36500558 (92.47%)	1660973 (4.21%)	38161531 (96.68%)
NN-0h-3	46953254	1539030 (3.28%)	43591203 (92.84%)	1823021 (3.88%)	45414224 (96.72%)
NN-6h-1	43795160	2307490 (5.27%)	39605045 (90.43%)	1882625 (4.30%)	41487670 (94.73%)
NN-6h-2	67790590	3307880 (4.88%)	61790480 (91.15%)	2692230 (3.97%)	64482710 (95.12%)
NN-6h-3	42558098	3004358 (7.06%)	37582047 (88.31%)	1971693 (4.63%)	39553740 (92.94%)
NN-24h-1	46613694	1778074 (3.81%)	43143281 (92.55%)	1692339 (3.63%)	44835620 (96.19%)
NN-24h-2	42753882	4394772 (10.28%)	36533715 (85.45%)	1825395 (4.27%)	38359110 (89.72%)
NN-24h-3	40923094	1671450 (4.08%)	37702601 (92.13%)	1549043 (3.79%)	39251644 (95.92%)
NN-48h-1	41435030	1562676 (3.77%)	38458345 (92.82%)	1414009 (3.41%)	39872354 (96.23%)
NN-48h-2	48303628	1543167 (3.19%)	45088081 (93.34%)	1672380 (3.46%)	46760461 (96.81%)
NN-48h-3	43132578	1408442 (3.27%)	40334634 (93.51%)	1389502 (3.22%)	41724136 (96.73%)

The average total coverage across all samples was 95.62%

Supplementary Table S5. Twenty-seven genes associated with signal transduction

Sr. No.	Gene ID	Symbol	Description
1	Glyma13G370000	CIPK5	CBL-interacting serine/threonine-protein kinase 5
2	Glyma03G260200	CIPK9	CBL-interacting serine/threonine-protein kinase 9
3	Glyma20G061300	N	disease resistance protein
4	Glyma19G054900	N	functional candidate resistance protein KR1
5	Glyma18G212200	CIPK2	PREDICTED: CBL-interacting protein kinase 2-like
6	Glyma07G023500	CIPK25	PREDICTED: CBL-interacting serine/threonine-protein kinase 25-like
7	Glyma08G218400	CIPK5	PREDICTED: CBL-interacting serine/threonine-protein kinase 5-like
8	Glyma03G047900	N	PREDICTED: disease resistance protein RML1A-like
9	Glyma15G152200	RLM1A	PREDICTED: disease resistance protein RML1A-like
10	Glyma01G032400	N	PREDICTED: disease resistance protein RML1A-like isoform X1
11	Glyma13G028100	N	PREDICTED: disease resistance protein TAO1-like
12	Glyma06G265400	TAO1	PREDICTED: disease resistance protein TAO1-like isoform X1
13	Glyma04G058400	AHK5	PREDICTED: histidine kinase 5-like
14	Glyma02G257000	PLC6	PREDICTED: phosphoinositide phospholipase C 6-like
15	Glyma03G251700	EIN4	PREDICTED: protein EIN4-like isoform X1
16	Glyma16G136600	N	PREDICTED: protein SUPPRESSOR OF npr1-1, CONSTITUTIVE 1
17	GlymaU008300	N	PREDICTED: protein SUPPRESSOR OF npr1-1, CONSTITUTIVE 1
18	Glyma12G185500	ROPGAP1	PREDICTED: rho GTPase-activating protein 5-like
19	Glyma16G136200	N	PREDICTED: TMV resistance protein N
20	Glyma12G239700	N	PREDICTED: TMV resistance protein N-like
21	Glyma16G086700	N	PREDICTED: TMV resistance protein N-like
22	Glyma16G159200	N	PREDICTED: TMV resistance protein N-like
23	Glyma16G085700	N	PREDICTED: TMV resistance protein N-like isoform X2
24	GlymaU035400	N	R 1 protein
25	Glyma06G259400	N	TMV resistance protein N
26	Glyma06G259800	RPP1	TMV resistance protein N
27	Glyma16G136900	N	TMV resistance protein N

Twenty-seven genes associated with signal transduction were identified through GO enrichment analysis, along with their predicted functions

Supplementary Table S6. Eight genes related to “Response to auxin” from GO enrichment

Sr. No.	Gene ID	GO	Function
1	Glyma04G006300	GO:0009733	response to auxin
2	Glyma07G043500	GO:0009733	response to auxin
3	Glyma09G219900	GO:0009733	response to auxin
4	Glyma09G220400	GO:0009733	response to auxin
5	Glyma12G034800	GO:0009733	response to auxin
6	Glyma12G035800	GO:0009733	response to auxin
7	Glyma16G011900	GO:0009733	response to auxin
8	Glyma19G258800	GO:0009733	response to auxin