

Figure S1. Analysis of the size of SNC4 cDNA and SNC4-GFP fusion protein.

(A) RT-PCR analysis of SNC4 cDNA using primers

5'-cgggatccgagctcatgaattcccagcaaagtac-3' and

5'-acgcacgcgtcgactccttctgtgtagacagagac-3'.

(B) Western blot analysis of the SNC4-GFP fusion proteins in transgenic plants

expressing the GFP-tagged SNC4 or *snc4-1D*.

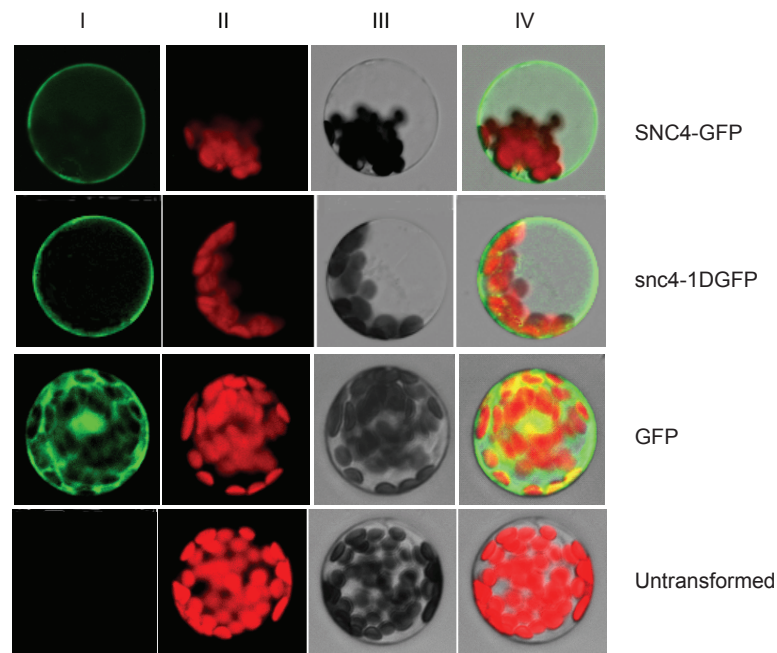


Figure S2. Localization of SNC4-GFP and snc4-1D-GFP fusion protein.

Arabidopsis mesophyll protoplasts were transfected with constructs expressing SNC4-GFP and snc4-1D-GFP fusion proteins under the 35S promoter and examined by confocal microscopy 16 hr later. A 35S-GFP construct and untransformed protoplasts were used as negative control. Epifluorescence(I); chloroplast autofluorescence (II), bright field (III) and merged (IV).

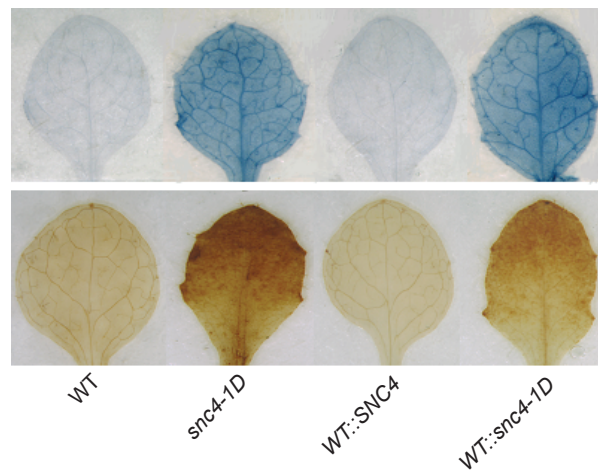


Figure S3. Trypan blue staining (upper panel) and DAB staining (lower panel) of true leaves of wild type, *snc4-1D*, WT::*SNC4* line #1 and WT::*snc4-1D* line #1.

Figure S4

SNC4 1 MNSQQSTRTKQMLQQSSTHLLCCVVLLEQLFAAQVDAQR--STSEWOTLNGDAPLVIARGG
 AT1G66970.1 1 MNSRPSNPTKLVIR-SSFTLLFCVVLTEHLFAAQVDAQR--STSRWOTLNGDAPLVIARGG
 AT4G26690.1 1 -----MRGLLR-ASSLLCCVTLIQLLAAQTHAQSKKPKSEWPTLIGDPPPLVIARGG
 AT5G55480.1 1 MINMRDNPTMHVLIQ-ASKFLFLALILIQLLSTQLFAQR--SKSEWOTLNGDAPLVIARGG
 AT3G20520.1 1 -----MACPRVIFLILITFFILQLTAFSS----SWOTLSCKPPPAVIARGG
 AT5G58050.1 1 -----MLRFFILFSLFLHLSVAAPKTPAAAAVPA----KKWLTLLNGQEPAVVARGG
 AT5G58170.1 1 -----MLRFIFLFLHLCVAAQTPAAAAVPA----KKWLTLLNGQEPAVVARGG

SNC4 59 FSGLFPDSSLAAYQFAMVVSADVVLWCDVQLTKDGHGICFPDLNLANASNSEEVYPNRC
 AT1G66970.1 58 FSGLYFDSSLAAYQLATITSVADVVLWCDLQLTKDGLGICFPDLNLANASTIDRVYPNRE
 AT4G26690.1 52 FSGLFPDSSYDAYNFALITSPADVVLWCDVQLTKDGLGICFPDLNLANSSIEAVYPTRC
 AT5G55480.1 58 FSGLFPDSSLDAYSEVVSQTSVPGAVLWCDVQLTKDAIGLFCFDNKKMNASNIDVYPKRK
 AT3G20520.1 41 FSGMFPDSSIQAYQLVNIITSPDVMWLWCDLQLTKDGVGICFPDLKLDNCSNVIRIDDPYK
 AT5G58050.1 49 FSGLFPDSSISANDLAIQTSSPGFTMLCNLQMTKDGVGLCLSDIIRLDNATTISSVFPKAC
 AT5G58170.1 49 FSGLFPDSSASANDLAIQTSSPGFTMLCNLQMTKDGVGLCLSDIIRLDNATTISSVFPKAC

SNC4 119 KSYFVNGVITTKGWFPIDFSLTEIQKVLFSLRIGILSRSGKFDENGYSTVQNVATQMKP
 AT1G66970.1 118 KSYSVNGVITTKGWFPNDFSLTEIQN--FLLIRIGILSRDRFDGNGYLITIEDVVTNLR
 AT4G26690.1 112 KSYFVNGVPTSGWFTIDFSLKDKD--VNLIRIGILSRSEKFDGNSNPTMTVQSVSTQMKP
 AT5G55480.1 118 TSYLLNGVPTQDWETIDENFKDLTK--VILKQILSRSAAFDGNISYGISVTKDITSTQKE
 AT3G20520.1 101 ER-----FSVDFTWKELSD--VKLAQGVSRPYIFDQVS-SILATEEVA-KLTA
 AT5G58050.1 109 KLYYKVNQODLKGWEVIDDADDTFN-KVTLVQNIIFSRPSIFDGM-SVSAVEDVLGKTEP
 AT5G58170.1 109 KLYYKVNQODLKGWEVIDDADDTFN-NVTLVQNIIFSRPSIFDGM-SVSAVEDVLGKTEP

SNC4 179 AIFWLNVOHDFEYEQHNLSMSSFLSSTRTVSIIDFISSPEVNFRRKIAGGFGNGPSTFV
 AT1G66970.1 176 EGFWLNVOHDAFYEQCNLSMSSFLSSTRTVSIIDFISSPEVNFRRKITGSGFRNGPTFV
 AT4G26690.1 170 SFFWLNVOHDAFYAQHNLSMSSFLVAASKTVLIDFISSPEVNFRRKIAGRFRNGPSTFV
 AT5G55480.1 176 EGFWLNVOHDAFYAQHNLSMSSFLSSTRTVSIIDFISSPEVNFRRNIRFRFRNGPKFV
 AT3G20520.1 146 SGLWLNVOHDAFYAKHNLSMRNSVVSLSRRLKQNFISSPGISTLKSVMKNSVKPTVTKLIF
 AT5G58050.1 167 K-FWLSVQYDAFYMEHKLSPAEVLRSLFRG--INVISSPEIGLTKSICMDAGRAKTKLIF
 AT5G58170.1 167 K-FWLSVQYDAFYMEHKLSPAEVLRSLFRG--INVISSPEIGLTKSICMDAGRAKTKLIF

SNC4 239 QFVGKEDFEPTNRTYGSILSNLTFVKTFFASGILVPKSYILPLDDQYLLPHTSLVQDAH
 AT1G66970.1 236 QFVGKEDFEPTNRTYGSILSNLTFVKTFFASGILVPKSYILPLDDEQYLLPHTSLVQDAH
 AT4G26690.1 230 RFLGQDEFEPTNRTYGSILSNLTFVKTFFASGILVPKSYILPLDDQYLLPHTSLVQDAH
 AT5G55480.1 236 RFLKDDVEVSTNQTYSLAGNLTFLKTFASGILVPKSYIWPLES-QYLLPRTSEVQDAH
 AT3G20520.1 206 RFLKQEHTEPTNQSYSGLAKNLSYIRTFSSGILVPKSYIWPVDSALYLOPHTSLVQDAH
 AT5G58050.1 225 EFKDPEAVEPTNKKYSEIQONLAAIKAFASGILVPKDYIWPVDSAKYLKPAITFVQDAH
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 AT4G26690.1 350 VGRNAIKQVDFLVITKNGASGDPGCTDLAYEKAIKDGADVIDCSVQLSSDGPFCSSS
 AT5G55480.1 355 IGRNAIKQVDFLVISKNGASGDPGCTDLAYEKAIKDGADVIDCSVQMSSDGIPFCSSS
 AT3G20520.1 326 VDKRAKEQAKTITISKNGASGDPGCTDLAYEKAASDGADVIDCNVQMSKDKIPFCMSS
 AT5G58050.1 345 QN-GNLPRAGHALVITENNGASGDPGCTDLAYEKAIDDGADVIDCSVQMSKDKIPFCHDA
 AT5G58170.1 345 QN-GNLPRAGHALVITENNGASGDPGCTDLAYEKAVIDDGADVIDCSVQMSKDKIPFCHDA

SNC4 418 IDLVNSTVVGQTHLRNRSIIIVPEIS-SVAGIFTFSLTWHEIQSLTPAISNPF-RENGMSR
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 AT4G26690.1 409 IDLGNSTVSLTAFNRNSTTVPELIG-SLGAIVTFSLTWAEIQSLTPAISNPF-RVYRIFR
 AT5G55480.1 414 INLGESTNVVQSEFNRNSTTVPELIG-SLPGIYFSLTANSEIQSLTPAISNPF-RVYRIFR
 AT3G20520.1 386 FDLINSTNVIEFENRNSVSVSEINPRRSGITFSLTMSQIQILKPTISNLE-KDSGLFR
 AT5G58050.1 404 ADLSAST-TARITFMSRATSVPELQ-PTNGIFSEDLTWAEIQSVKQIENPF-TATGFOR
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SNC4      476  NPNERNSGNLSLYEFLNLAKNSTSLSCILISLENVVYLREKKGLDVVVKVVLNRLTEITG-
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AT4G26690.1 467  NPKOKNAGKLFSLSDFLSLAKNSTSLSGVLISVENAAYLREEQGLDVVKAVLDTLTLQIG-
AT5G55480.1 473  NPRERSGKFFVSLSDFLNLAKNSSSLIGVLISVENATYLRKQGLDAVKAVLDTLLEAG-
AT3G20520.1 445  NPRNNKAGKFLTLEFLELIPNRYSSLIGLIEVENAAYLVEHQGISVVDVAVLDELKRRATT
AT5G58050.1 461  NPANKNAGKFTLLADFLDLG-KAKAVTGVLINQNAAYLASKKGLGVVDVVKSAITNST-
AT5G58170.1 461  NPANKNAGKFTLLADFLDFS-KAKAVTGVMINIENAAYLASKKGLGVVDVVKSAIAKST-

SNC4      535  YIVG--TLKVMIQSTTRVLVLDVFK---NOSTYKTVYKIKETIGNITDSAIEDIKFFANAV
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AT4G26690.1 526  YSNS-LATKVMIQSTNSSVLVDFK---KOSQYETVYKVEENIRDILDLSAIEDIKFFADAV
AT5G55480.1 532  YSNKTTTFRVMIQSTNSSVLIDFK---KOSRYETVYKVEETIRDILDLSAIEDIKFFADAV
AT3G20520.1 505  QQNKTSARTILIQSTDRSVLMEFKEKNKMNHDELIVYRVDNIRDVADSAIKDIKNFAGSTI
AT5G58050.1 519  -LDKQSTQKVLIQSDDSSVLSSE---AVPPYTRVLSLIDKEIGDAPKLSIEEIKKHADAV
AT5G58170.1 519  -LDKQSTQKVLIQSDDSSVLSASE---AVPPYTRVLSLIDKEIGGAPKPSVDEIKKYAFAV

SNC4      590  VINKASVFPNSDSFLTGTQTNVLERLQRFQLPVYVELEQNEFVSQPFDFFADEIIVEINAV
AT1G66970.1 589  VINKDSVFPNSDSFLTGTQTN-VVERLQRSQLPVYVELERNEFVSQAYDFSDAIVEINAV
AT4G26690.1 582  VIKKLSVFPVAQSFITITQTN-VVEKLRQSQLPVYVELEQNEFISQPYDFFDATAIVEINSY
AT5G55480.1 589  VISKKSVEPTSESETTGQTK-LVERLQRFQLPVYVELERNEFVSQPFDFFADEIIVEINSH
AT3G20520.1 565  VISKKSVPYKGFITLEKETNASKLKSNGLRVYVERFSNECVTHAFDFVDDPTIEIDSF
AT5G58050.1 575  NLLRSTLITVSOSEFATGKTN-VVEEMHRCANISVYVSLRNEYIAIAFDVFSDDTIELATF
AT5G58170.1 575  NLLRSTLITVSOSEFATGKTN-VVEEMHRCANISVYVSLRNEYISVAFDVFSDDPTIELATF

SNC4      650  IFGAGINGTITEFPYTAARYKRNRCLGR-EEVPPYMLPVNPGGLTLTISTSSLPPAQDPN
AT1G66970.1 648  IYGAGINGTITEFPFTAARYKRNRCLGR-EEVPPYMLPVNPGGLLNVMSELSLPPAQAPN
AT4G26690.1 641  ITGAGINGTITEFPFTAARYKRNRCLGR-KEITPYMAPAOPGALLTLVSPATAFPAAEAPN
AT5G55480.1 648  IYTGAGINGTITEFPFTAARYKRNSCLTR-KDVPPYMLPVOPAGLLTIVSPASLPPAEAS
AT3G20520.1 625  VRDVQLDGIITFPATTAARYRKNKCYG-----EFGLTTTGLLTFANRMLLPPAEAPY
AT5G58050.1 634  IACRGVDCVITEFPATATRYLRSPCSDLNKEQPYATLPADAGALLTVADKEAQIPAIAPN
AT5G58170.1 634  ISGSGVDCVITEFPATATRYLRSPCSDLNKEQPYAILPAEAGGLVVVADKEAQPPASAPN

SNC4      709  PIFTHDVDTEPPLPPVIAKSPSTSLGTPSTIAKPLRNF LKVI RIVSWSNACVVLFLVLLH
AT1G66970.1 707  QDFTEADVTEPPLSPVIAKAPTSTPGTPSTIAQAPSGQTRIK----LSLLLSVFFLSLL
AT4G26690.1 700  PVFTDADVTEPPLPPVIAKAPTSTPGTPSTNAQAPSGQTRIT----LSLLLSVFMVLAG
AT5G55480.1 707  PVFTDADVTEPPLPPVIAKAPTSTPGQSTGEKSPNGQTRVA----LSLLLSAFATVFAS
AT3G20520.1 678  PALLSDVTEPPLPEARSOPEASSP-----SKAEKATEVP----FAFIAMAILVCFIT
AT5G58050.1 694  PPLDAKDVIDPPLPPVAKLAS-NGTEGGPPQTPPRSGTVAIAANLSLSLLAMALGLLYT
AT5G58170.1 694  PPLEAKDVIDPPLPPVANLAASNATGGAOSHPPPASGTVANAANLGLSLLAMALGLV---

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Figure S4. Sequence alignment of the extracellular domain of SNC4 and six GDPD domain-containing proteins in Arabidopsis.

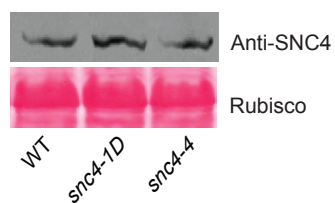


Figure S5. Western blot analysis of SNC4 protein levels in wild type (WT), *snc4-1D* and *snc4-4* using a polyclonal Anti-SNC4 antibody generated against a fragment of the SNC4 kinase domain.

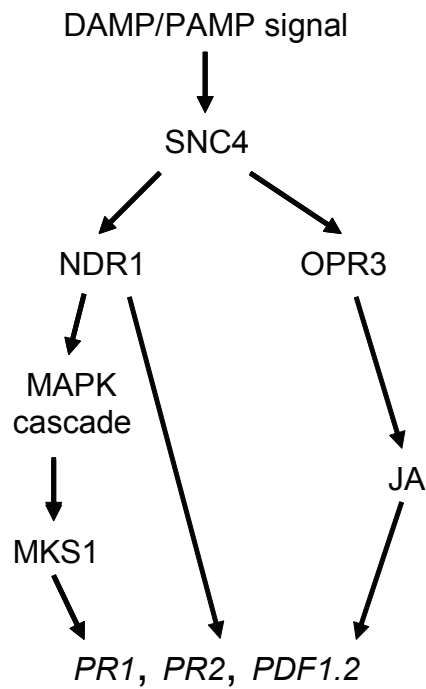


Figure S6. A working model for SNC4-mediated resistance.

Perception of an unidentified PAMP/DAMP signal leads to activation of SNC4 and multiple downstream defense pathways that are dependent on NDR1, OPR3 and MKS1. The proposed relationships between NDR1, OPR3 and MKS1 are based on their effects on defense gene expression in *snc4-1D*.