

reference	1	MTDEITPLTD	AVPSGSGYVV	LPPYQGPERV	FPGGVSPRAR	RNKMRFQCC	MGITFIAIVF	TALCLALVFS
carinal		MTDEITPLTD	AVPSGSGYVV	LPPYQGPERV	FPGGVSPRAR	RNKMRFQCC	MGITFIAIVF	TALCLALVFS
reference	71	DSLGGADGGP	SFFVVGSD	SELAPNRPLP	DEPAAEWALQ	QAALGHHDGA	QAVSAGIKAL	GDREILEEGL
carinal		DSLGGADGGP	SFFVVGSD	SELAPNRPLP	DEPAAEWALQ	QAALGHHDGA	QAVSAGIKAL	GDREILEEGL
reference	141	QPNENVTPSF	RHYRSLSTNP	EARKLARRGY	VENQATIDIA	KRFNYTKQPG	RSNIGWGPKI	VLPDPTVLRL
carinal		QPNENVTPSF	RHYRSLSTNP	EARKLARRGY	VENQATIDIA	KRFNYTKQPG	RSNIGWGPKI	VLPDPTVLRL
reference	211	ECDFNARYRR	STGVCNNKQH	PRTYGASMVP	YRRMVSPDYA	DGIAAPRVSH	HGRLPPARQV	SLKIHRSSYE
carinal		ECDFNARYRR	STGVCNNKQH	PRTYGASMVP	YRRMVSPDYA	DGIAAPRVSH	HGRLPPARQV	SLKIHRSSYE
reference	281	TDSNFTVMLA	VFGQFMDHDI	TATSLTTSQE	GESIDCCVAA	TREQHPECYP	VDILPDDPYY	KQYNISCMNF
carinal		TDSNFTVMLA	VFGQFMDHDI	TATSLTTSQE	GESIDCCVAA	TREQHPECYP	VDILPDDPYY	KQYNISCMNF
reference	351	VRSAPAPTGR	FGPRMQLNQA	TAFIDASVYV	GNLEQRONQL	RSFINGSLRM	FVTDDGRQLL	PISSNPADGC
carinal		VRSAPAPTGR	FGPRMQLNQA	TAFIDASVYV	GNLEQRONQL	RSFINGSLRM	FVTDDGRQLL	PISSNPADGC
reference	421	NRVQMTRLGK	YCFESGDDRA	NENLLLTSMH	LLWARHHNYL	AROLQEQNP	WEDERLYQEA	RKILGAQMAH
carinal		NRVQMTRLGK	YCFESGDDRA	NENLLLTSMH	LLWARHHNYL	AROLQEQNP	WEDERLYQEA	RKILGAQMAH
reference	491	ITYNEFLPV	LGKNISEAKG	LLPAKHNLNA	PDTYDPEVDP	SIANCFAAAA	FRFAHTLLPG	LFNISRDNST
carinal		ITYNEFLPV	LGKNISEAKG	LLPAKHNLNA	PDTYDPAILA	LGGAWH		
reference	561	PEAIELHKML	FNPFSLWAEH	GIDHALMTAA	NTPVMQVDRF	FSLEVTQKLF	EGTAEDRVPL	CGLDLVSLNI
carinal		PEAIELHKML	FNPFSLWAEH	GIDHALMTAA	NTPVMQVDRF	FSLEVTQKLF	EGTAEDRVPL	CGLDLVSLNI
reference	631	QGRDHGIPS	YFVFRRHCR	PTVDTWEEMS	QAIDNATLDS	IRQIYESPOD	VDVYTGALSE	PPLDGAIFGP
carinal		QGRDHGIPS	YFVFRRHCR	PTVDTWEEMS	QAIDNATLDS	IRQIYESPOD	VDVYTGALSE	PPLDGAIFGP
reference	701	LLSCMVSDQF	LRLKLGDSHW	YERKMGPQKF	TKAQLAEIYK	TSLAAILCRN	SDGITRVREH	VMQRLRDGGN
carinal		LLSCMVSDQF	LRLKLGDSHW	YERKMGPQKF	TKAQLAEIYK	TSLAAILCRN	SDGITRVREH	VMQRLRDGGN
reference	771	PHVDCODLEG	FHFNFEPWSE	KQOPQDLHSA	GISRGSSTSVR	VMSKANHQAH	NVTLHIDKGI	
carinal		PHVDCODLEG	FHFNFEPWSE	KQOPQDLHSA	GISRGSSTSVR	VMSKANHQAH	NVTLHIDKGI	

Figure S2. Alignment of the reference and *cd'* (amplicon III) PHS protein sequences.