

I  
ZmCR4 : M...DHVPA...LVLAGCCFLALLPGWACGLGSMSSIAVSYGEDGPVFCGLNSDGSHLVACFGADASVLY : 64  
ACR4 : M.RMFETRAREWILLVKLVLFSTIWLQASALGSMSSIAVSYGEGGSVFCGLKSDGSHLVVVCYGSNSAILY : 69  
OsCRR3 : M.....TPLL LLLLPLLLLAPASASTVAIAAG.PTACAVAEGNSTVYCASAT.NSSSSAA : 54  
AtCRR3 : MKRFINSTVTFVSVTVTIAVIFLLSPVTSLGSGSTYAVVYGSDTVICALISGQPTQRILCYDTRLNINVT : 70  
PHVUL.001G243800 : MKTLTSSSVTLCL.VVAALLLISLPRSSHGLGSGATLTI SDASSTVCAVVARESTRRIEY..RQGQIAS : 67  
PHVUL.001G243700 : M..... : 1  
PHVUL.001G243500 : M..... : 1  
PHVUL.001G243600 : M..... : 1

II  
ZmCR4 : GAPPNIPFLGLTAGDGFVCGLLDTRQPYCWGNSYVKSGVPQP.MVEGARYSELSAGDNHLCALRAAQD : 133  
ACR4 : GTPGHLQFIGLTGGDGFMCGLLMLSHQPYCWGNSAFIQMGVPQP.MTKGAEYLEVSAGDYHLCGLRKPV : 138  
OsCRR3 : VAFVFSFSQVSGGGGAFVCGLQVGGRALFCWPAAPGQ..LRRVYNGP.GQLSQ LAVGGGHVAAYDAA.. : 119  
AtCRR3 : LNPVGSFSSIAAGD.NFLCGIRSGGYSLLCWDNIGSYSPNRKRIYQNDNVLLETLSVGDKQICATVNG.. : 137  
PHVUL.001G243800 : ITENASFSTISGGR.NYFCGLRSSNSDLLCWNNTSSSFE..RRRLYNDSSVPLENLAVGDTHLCATEV.. : 132  
PHVUL.001G243700 : ..... : -  
PHVUL.001G243500 : ..... : -  
PHVUL.001G243600 : ..... : -

III IV  
ZmCR4 : GGRGSS..AATSLIDCWGYNMTATHAVDEAVSTVSAGSVENCGLFARNRTVFCWGDDET VSGVVGLAPR.. : 199  
ACR4 : GRRKNSNIISSSLVDCWGYNMTRNFVFDKQLHSLSAGSEFNCALSSKDKSVFCWGDENSSQVILIPK.. : 206  
OsCRR3 : .....ARVIRWWRGGDRFPLWFGGG.FASLVSGDDFTCAVETSTSAVRCWGP.....RGGAVEAGF : 174  
AtCRR3 : .....TNSLKCWRGVSVDQSKPPNERFRSISGVSFSCGVSIRNNRILCWGTD PVK..SNQIQTF : 196  
PHVUL.001G243800 : .....DGAVKCWRTGDTFQLPSATDKFASISSGTGFSCGILKNSYRVRWGDTSVSDLTERIESVF : 193  
PHVUL.001G243700 : ..... : -  
PHVUL.001G243500 : ..... : -  
PHVUL.001G243600 : ..... : -

V VI  
ZmCR4 : .DLHFQSIGAGGYHVCVLEN..AQVFCWGRSLEMQQVVPSSAIGDGDVNI VPM DAMSTVVGGRFHACGI : 266  
ACR4 : .EKKFQKIAAGGYHVCGILDGLESRLVCWGSLEFEFEVGTSTEEKI LDLPPEKPELLAVVGGKIFYACGI : 275  
OsCRR3 : LNASVSALAAGGRACGVRNRDGGVLCSSGGVLA PRE.....DLYVDGLA.....VGD SHACGL : 228  
AtCRR3 : GNTPMVTISAGKSHACGLN.TTGNLICIGNNDSGQLNVIAPDQPNLYSSLS.....LGSNFTCAM : 256  
PHVUL.001G243800 : GNMSMLS LVAGGSHVCGLN.STGFLVCGGNDSGQRD..FPQGGAFEYSGLA.....LGAEHGCAI : 251  
PHVUL.001G243700 : .....A : 2  
PHVUL.001G243500 : ..... : -  
PHVUL.001G243600 : ..... : -

VII  
ZmCR4 : RSLDHQVACWGFTLHNSTSPKGL.KKMYALVAGDYFTCGVPAETS LMPCWGN SGPLALPMAVPPGICVP : 335  
ACR4 : KRYDHSAVCWGFFVNRSTPAPTG.IGFYDLAAGNYFTCGVLTGTSMSVPCWGLGFPASIPLAVSPGLCID : 344  
OsCRR3 : LRPNHTAACWSLGGATTTLYPAVGTAFELLVAGGNLTCGLVSNANFSLLCWSR..DGLVAAEVNLPETLP : 296  
AtCRR3 : RISNNSVVCWGG.GAERFNNVTD.SIFESISSGPLICGLISSNLSIMCWNP..TNFSRIFLPEPEVLP : 322  
PHVUL.001G243800 : RGLNGSVVCWGGNGSFSVNNVTEG.VSFEVIVSGSNFVCGLTNNLKVVCWGPWNSNSTFELPESTVLP : 320  
PHVUL.001G243700 : NSGASLVHSEFASIVEYAIRSIGDGLGAFPLRDFSF AVENAWSS.IGGDLGAVP.....VRGEASIVE : 63  
PHVUL.001G243500 : .....DSESVESIEMWNYG...SEDAFSFLAVDNEIRSGTSSNLGASSP.....LHSEASILLD : 52  
PHVUL.001G243600 : .....ANN.....AVDARSFSWA VDSATASESASNLGESSR.....VHSEASVVD : 40

ZmCR4 : TACSHGYEYVNHGEVGSIKVCKPANSRLCLPCSTGCPEGLYESSPCNATADRVCQFDCLKCVTDECLSF : 405  
ACR4 : TPCPPGTHELSNQENS...PCKFTGSHICLPCSTSCPPGMQKSVCTERSDQVCVYNCSSSCSHDCSSN : 410  
OsCRR3 : GVCVSDNSS.....CKCGPLPDSGRFCVKVSG...DVICRRFCDTSPP.....PPP..PSPRTSPSPA : 348  
AtCRR3 : GPCVESSSSL.....CSCGVYQSDKLCSTGTSICK..SCPIQFPASPPSQFPLPPP..PPPPPSPT : 383  
PHVUL.001G243800 : GSCVQSS.....CECGSYLDSQSLCSGSGNICKPMTCKLQT TAPPPLSPPPPSPPPPPPP : 381  
PHVUL.001G243700 : NMMRSVGGD..... : 72  
PHVUL.001G243500 : IAIRSRTSSN.....WETSSANSYAFGLDNAIRSRTSSNLETSSAYSFAFGVDTAIRSRTSSNWETSS : 115  
PHVUL.001G243600 : GAIRSSTAS..... : 49

TM  
ZmCR4 : CLSQKRTKSR...KLMAFQMRI FVAETVFAVVLVLSVSVTTC LYVRHKLRHCQCSNRELRLAKSTAYSFR : 472  
ACR4 : CSSSATSGGKEKGFWSLQLP IATAEIGFAIFLVAVVSITAALYIRYRLRNCRCSENDTRSSKDSA..FT : 478  
OsCRR3 : TPSSRRGVSKGWIAFAVVGAVGCFAGLCSIVYCLLFGFCS.HKKVHNSVQPNIASNNGGGGGGAAA AVG : 417  
AtCRR3 : SSPPSKALTRGLLAF AIVGSGAFAGICSVVYCLWTVGVLGKKKVHNSVQPTITRGGSSNR.....SNSS : 448  
PHVUL.001G243800 : SSSRSKTLTNGLLAF AII GSVGAFAGICTIVYCLWSGVC FGKKKVHSSVQPTITRGGSSGSGNGGASNNSN : 451  
PHVUL.001G243700 : .....LRALPVHGFASAVENAMIS..IGD LGVSPMQGFASRVENAMSSIGG..... : 117  
PHVUL.001G243500 : THSFAFEEDRTPSNLGSFRVPSFSSGV D YVIRSSSGT DSETSPVHSFAFAAGASQMAA..... : 174  
PHVUL.001G243600 : .....EADLEAFPTHYFAFASAWDKRTV..... : 72

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ZmCR4      : KDNMK.....IQPDMEDLKIRR.AQEFSEYELEQAIGGFSEDSQVG.KGSF : 516
ACR4       : KDN GK.....IRPDLDELQKRRRARVFTYEELKADGFKKEESIVG.KGSF : 523
OsCRR3     : SGAPSPYGPNGSLGRLRRQLS..RVMTRQRSGPSSFKDP..AEEFTFAQLAAATKDFAAEAKIG.EGSF : 482
AtCRR3     : NSRSL.....SIRRQGSRLSMRRQRSGTSSMKHADKAEFSELSASAIGNFSLNKIG.SGSF : 507
PHVUL.001G243800 : SSISS.....MIMRQTS..MIMRRQRSGTSSTKHPDRAEFTLAEELVAATNFFLENKIG.AGSF : 508
PHVUL.001G243700 : .....DLGTSHPVHGFOVFTLLELAAATNFFSVDNKIG.AGSF : 155
PHVUL.001G243500 : .....NVTGHVAKGLQLFSREELVAATNFFSLHNKIG.VGSF : 210
PHVUL.001G243600 : .....AAR.....LFTLAEELKAATNFFSIHNKIFCAGSI : 101
  
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II III IV

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ZmCR4      : SCVFKGILRDGTVVAVKRAI....KASDVKSSKEHNELDLLSRLNFAHLLNLLGYCEDGSEERLLVYE : 581
ACR4       : SCVYKGLRDGTTVAVKRAI....MSSDKCKNSNEERTELDLLSRLNFAHLLSLLGYCEEGERLLVYE : 588
OsCRR3     : GTVYRGKLPDGREVAIKRGE..SGPRARKFOEKETAERSELAFLSRLHKKHLVGFVGYCEESEDERLLVYE : 550
AtCRR3     : GVVYRGKLDGREVAIKRGE..VNAKMKKFOEKETAEDSEIAFLSRLHKKHLVRLVGYCEEEREKLLVYD : 575
PHVUL.001G243800 : GVVYKGLADGREVAIKRGE..TGSKMKKFOEKESAESELAFLSRLHKKHLVGLVGFCEEKDERLLVYE : 576
PHVUL.001G243700 : SVVYRGKLVLDGSEVTIERVERWSSRTVEEAFWWR..RTSSLKILPGLRPNLVGLVGLCEEKNERVLVYE : 223
PHVUL.001G243500 : GVVYGGLLVDGREVAIKRNE..TSPKMKFEQEIIV..EGYLVTFLGRLLHHEQLVGLVGFCEEDEKLLVYE : 276
PHVUL.001G243600 : SVVHRGKLFDRQVAVKRAE..ISSKMKFEQER...EGYLWTLILLRLLHKKHLVGLVGFCKDKDKRLLVYE : 166
  
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V VIA VIB

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ZmCR4      : FMAHGSLYQHLLHGKDPNLKKRLN.....WARRVTVAVQAARGIEYLHGYPVPIHRDIKSSNILDED : 645
ACR4       : FMAHGSLHNLHGKKNKALKEQLD.....WVKRVTVAVQAARGIEYLHGYPVPIHRDIKSSNILDEE : 652
OsCRR3     : YMKNALYDHLHHPKNGSSPSPSPVATSWKLRKIILASRGIDYLSYAVPPIHRDIKSSNILDGS : 620
AtCRR3     : YMKNALYDHLHDKNNVEKHSS...LINSWKMRIKIALDAARGIEYLHNYAVPPIHRDIKSSNILDSN : 642
PHVUL.001G243800 : YMKNALYDHLHDKNNVEKGS...VLNYWKMRIKIALDAARGIEYLHNYAVPPIHRDIKSSNILDVT : 643
PHVUL.001G243700 : GMKNALYDHLHKEG...SS...VLNSWKMRIKIALDASRGIEYLHKEGVSEVHGIDINPSNILLDAT : 285
PHVUL.001G243500 : YMKNALYDHLHKG...SV...ELNSWKMRIKIALDASRGIKYLHYAG.TNIYRDIKSSNILDDT : 337
PHVUL.001G243600 : YTKNRALYDYLHDKNNVDRESS...ALNSWRMRIKIVALDASRGIEYLHKKHVPSPIHRDINSSNILLDAT : 233
  
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VII VIII IX

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ZmCR4      : HNARVADFGLSILGPADSGTP...LSELPAGTILGYLDPEYRRLHYLTTKSDVYSEGVVLELISGRKAI : 711
ACR4       : HNARVADFGLSLLGPVDSGSP...LAELPAGTILGYLDPEYRRLHYLTTKSDVYSEGVVLELISGRKAI : 718
OsCRR3     : WVARVSDFGLSLMGPEPETEEVK...HLSMKAAGTVGYMDPEYGLHHLTVKSDVYGGVVMLEALTGKRAI : 687
AtCRR3     : WVARVSDFGLSLMGPEVPGKDHNPYQRPKAAGTVGYIDPEYSLNVLTTKSDVYGLGVVLELLELTGKRAI : 712
PHVUL.001G243800 : WTARVSDFGLSLMSPPEPDRDY...RPMKAVGTVGYIDPEYGLNVLTAKSDVYGLGVVLELLELTGKRAI : 709
PHVUL.001G243700 : WTAKVSNIGKAAG.....TEGYI...DPEYIDLNVLTTKSDVYGGVVMLELLELTGKN.. : 334
PHVUL.001G243500 : WTARVSDFGLSSL.....MKAVGTIDPEYGYVMTAKSEVYAEVVMLELLELTGKR.H : 390
PHVUL.001G243600 : WTARVSGEESCF.....MSPEA...EHVYSDTRVLTAKSDVYGLGVVLELLELTGKKT : 284
  
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X XI

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ZmCR4      : DMQFE.....EGNIVEWAVPLIKAGDIFAILLDEVLSPPSDL...EALKKIASVACKCVRMRGKDRE : 769
ACR4       : DMHYE.....EGNIVEWAVPLIKAGDINALLDEVLSKHPSEI...EALKRIVSVACKCVRMRGKDRE : 776
OsCRR3     : FKEA.....EGGSPVSVVDYAVPSIVAGELSKVLDARAPEPSAH.EAEAVELVAYTAVHCVRLEGKDRE : 750
AtCRR3     : FRNNGDVEEEEGCVPVHLVDYSVPAITADELSTILDPRVGSPELG.EGDAVELVAYTAMHCVNAEGRNRE : 781
PHVUL.001G243800 : FKYG...EDGGTPLSLVDFAVPRILAGEMVKILDPRVGTPEDEK.EAEAVELVAYTAIYCVNLEGKDRE : 773
PHVUL.001G243700 : .....GGT.ILHVPSAEVLSILGGDFVKNLDKRVGEPRLN.EAKALKVAHTAINCVNVEGKVR : 391
PHVUL.001G243500 : ILCG...EDGGTPLSVVDFAVPEPILDGDIKILDPVGAHVN.EAKAVELMAFTAHCNVEGKDRE : 454
PHVUL.001G243600 : LKFG...INRET..SMVKIAGRVILGWKMKVILDPVGAHVNEEAEVALEIVAHAVSCVNSKRKDRE : 347
  
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ZmCR4      : SMDKVTALERALALMGSPCIEQPILPTEVVLGSSRMHKVS.QMSSNHSCSENELADGEDQGIGYRAPS : 838
ACR4       : SMDKVTALERALAQLMGNPSSSQPILPTEVVLGSSRMHKKSWRIGSKRSGSEN.....TEFRGGS : 837
OsCRR3     : AMADIVANLETAVALCEDSATGGGAAGHGNSSSSASLSITSMELSRMD..... : 798
AtCRR3     : TMTDIVGNLERALDLGDSHG.....SISGSISSVSE..... : 814
PHVUL.001G243800 : TMADIVVNLERALGICSSHD.....SISGSISSVSE..... : 806
PHVUL.001G243700 : TSAQVVLNLERAFAYFRY..... : 410
PHVUL.001G243500 : SLAEIVVNLKRALAICDSSSTHD.....SISNHTIFDVSE..... : 489
PHVUL.001G243600 : TMTQVVANLETALA.LCDSRPS..... : 368
  
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ZmCR4      : WITFPSVTSSQRRKSSASEADIVGRRATDGRNVGSSIGDGLRSLEEEIAPASPQENLYLQHNF : 901
ACR4       : WITFPSVTSSQRRKSSASEGDVAEE.EDEGRKQ...QEALRSLEEEIAPASPGQSLFLHNF : 895
OsCRR3     : ..... : -
AtCRR3     : ..... : -
PHVUL.001G243800 : ..... : -
PHVUL.001G243700 : ..... : -
PHVUL.001G243500 : ..... : -
PHVUL.001G243600 : ..... : -
  
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