Plant Omics Journal POJ

POJ 8(4):300-311(2015) ISSN:1836-3644

Supplementary data

# Genome-wide analysis of the cation/proton antiporter (*CPA*) super family genes in grapevine (*Vitis vinifera L.*)

**Yuanchun Ma[1], Jiaoyang Wang[1], Yan Zhong[1], Grant R. Cramer[2], Zong-Ming (Max) Cheng[1, 3*]**

**Table S1. Protein motifs found in CPA1 proteins of *Arabidopsis* and grapevine.**

| Mot | Multilevel consensus sequence | E |
|---|---|---|
| 1 | GLxxAxxxKxLYxGRHSTDREVAxMxLMAYLSYxLAELFxLSGILTVFFCGIxMSHYxxHNVTESSRxTTxHxFATxSFxAExFIFLYVGxDALDIxKWxxxxxxxGTSx | 4.6e-572 |
| 2 | xFVALLCxCxVxGHLLEENRWxNESITAxxxGLxTGxxILLxSxGxSSHxLVFxExLFFIYLLPPIIFNAGFQVKKKQFFRNFxTIMLFGxxGxxISxxIIxxGxxxxFxKxxxxxxxxGDYLAIGxIFxxTDxVCTLQVLxQDETPLLYSLVFGEGVVNDATSVVLFNAxQxxDLxxxxxxxAxQxxGNFxYLF | 8.4e-762 |
| 3 | KxxxSExIxxxxQVxIWWAGLMRGAVSxALAxxxFTxxGxTxxxGNAIMxTSTIxVxLFxTxVFGxxTKP | 3.5e-295 |
| 4 | xxNVPRPxxLRxxLTxPxxTVHxYWRxFDDxxMRPxFGGRGFVPxVPGSPTERxAPx | 1.6e-145 |
| 5 | xxExxGxSGxxxxxxxGxxxxxxxxxxxxxxSQxxxxxFxxxxxxxAxTxxFIxxGxxIAxxxxSxSH | 3.3e-089 |
| 6 | SxPxDAVxFxGxxLVxGxAxRxLxxGTRVPYTVxLLxxGIxLGSLExGxxxxLGKxGxGIRxWxxIxPxLLLAVFLPxLLFESSFSMxVHQIKRCxxQMxxLAxPGVLxSTxCLGxxxKxTFPYxWxWKTSLLLGGLLxATDPVAVVALLKELGAxKKxxTxIxGESLMNDGxxxVVxQLFxxMxxGxxxxx | 2.7e-123 |
| 7 | xDWxGLxxxVxFPNYYxFLxxxxxPxKLxTxxxVERLESACYIxxAFLRAHxIARxQLxxFxGxSxIxSxVINESExEGEEAxxFLExVRxxFPQVLxVxKTxQVTxxVLxHLxxYxxNLEKxGLLExKExxHLHDxVQxxLKKLLRxPPxxKxPxxxDxITxxP | 4.9e-126 |
| 8 | xxxLxxxAAxVFxxSxxxN | 5.1e-076 |
| 9 | RxxxxxIPxxHQKALWYSGLRGAMAFALALQSxHDLPEGHGQxIFTATTxIVVxTVLLIGGSTGxMLEALxVVGDxxDxxxxxxFExxxxxxxxxx | 1.7e-066 |
| 10 | xTGTxFxFxTGGIVFLTLxVNGSTTQxxLxLLxMDxLxxxKxRILxYTKxEMxxxALxAFxxLGDDEELGxADWPTVxxxIxSLxxxEGxxVx | 1.4e-052 |
| 11 | ExxISPxxHDPQGQxKQQQAAGVGILLQIMMLVLSFVLGHVLRRHxFxYLPEASxSLLIGLIVGxLANISxTETSIRTWFNFHxEFFFLF | 5.6e- |

| | | |
|---|---|---|
| | LLPPIIFQSGFSLQPKPFFSNFGAIVTFxxxGTFVASxVTGxLVYLGGxMxLMYxLPFVECLMFGxLISATDPVTVLSIFQxxGxDVNLYALVFGESVLNDAMAISLYRTM | 050 |
| 12 | xxGNSWxxLxLLYxYxQxSRxVVVGVxYPxLxxxGYGLDWKExIILxWSGLRGAVxLxLxLSVKxxSxxS | 4.7e-040 |
| 13 | xPxxxxDIRxRxLNGVQAxYWxMLDxGRIxxxTANxLMQSVDEALDxVSx | 3.1e-037 |
| 14 | FKYAGLDxxNLxNLECCLFVLFPYFS | 1.5e-019 |
| 15 | PxAxxEPLxxSxKExMKxRGVxLYxEGSKPxGxWLIxxGxVKWxSKxxxNxHSLxPTFxHGSTLGLYEVLxGKPYxCDxITDSxVLCFFxxxxKI | 2.3e-018 |
| 16 | xxxxxxxxxxxDxxxxxPxFxxxxxx | 3.1e-018 |
| 17 | LPxxxNFTxxMxSxxSxPKSxxxPLLDNxxxxxTx | 7.6e-014 |
| 18 | xxSxSDHASVVxxN | 4.6e-008 |
| 19 | DQxxRSxxxEHxxLMSWPExxYxxxQxx | 7.4e-004 |
| 20 | xSDxxxxDFLWQESAxVLxKLLxPQIFExxAMQxLRA | 4.0e-003 |
| 21 | DTVxxITxTxxxSYxAYxT | 2.5e-002 |
| 22 | QxxxYxVxTRARxIIFxIxAFxADRxLxRR | 6.0e-002 |
| 23 | RxxSSGxxFFMVxxRFxETFxGSMSAGVGVGFTSA | 7.3e+001 |
| 24 | ExxxEQHxxxRxxx | 1.9e+002 |
| 25 | xxAMQLSIFGSMVxxxxx | 4.2e+002 |
| 26 | xxxxWxxxxx | 1.7e+003 |
| 27 | VRIDSPSKxxFxx | 6.4e+003 |
| 28 | GxRxKMxLKE | 7.1e+0 |

| | | |
|---|---|---|
| | | 03 |
| 29 | YxxGExIEIxxxSIG | 7.5e+03 |
| 30 | xxSTxLGVxA | 8.7e+03 |
| 31 | xxKxxxxLxYxxxPxxxAxxLVSxxSExxxxxxxxxxxxKxxxQ | 9.3e+03 |
| 32 | DEExEDxGxx | 1.1e+04 |
| 33 | xEELIxxPAALxPSx | 1.6e+04 |
| 34 | PHxxYExxxx | 3.2e+04 |
| 35 | MTxxIxAxxxYxxxExA | 2.2e+05 |
| 36 | xxxxHxxxxHE | 8.7e+04 |
| 37 | xxDxxxxxGxRxK | 2.5e+05 |
| 38 | xxxxQxxxKQ | 1.9e+05 |
| 39 | STxxxRxKxx | 5.0e+05 |
| 40 | xTLxxLxxDE | 7.7e+05 |
| 41 | KFLxQxSxGA | 9.6e+05 |
| 42 | xxxFLExGDx | 1.8e+06 |
| 43 | xNKxxxxxxx | 2.6e+06 |
| 44 | KxxSSxRxxxxxE | 3.0e+06 |
| 45 | xxSSExSGxxx | 3.0e+06 |
| 46 | xxxxIxLxKK | 4.4e+0 |

| | | |
|---|---|---|
| | | 06 |
| 47 | xxxxxVxDAT | 4.9e+06 |
| 48 | MxxSLxSKxx | 9.5e+06 |
| 49 | LxTxxVxxLx | 1.4e+07 |
| 50 | MxxxxxxMLx | 9.7e+06 |