

**FAD**

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OsYUCCA1 1 -----MDNKPQAEERREHWVPCAVIAGGPGSLAAACLAARGVPLVLERSSCLASLWQRRHRMYDRLSL
OsYUCCA2 1 -----MCCSHQLVWVGGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
OsYUCCA3 1 MDPWSEIEGKRAHDPIFYNYFSQNCRQSVDFGCKKRSADAARARERCRVLCGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
OsYUCCA4 1 -----MDCFAETEGKRAHDPLYQRRAAAAATPATG--VPVDDVDVVDVPCAVIAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
OsYUCCA5 1 -----MPTSQQDGGGGGERLFGHGGAGDGGGGGGGAAAAAARQVWVGGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
OsYUCCA6 1 -----MAARVWVWNGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
OsYUCCA7 1 -----MVLQHSDRMDSLFSFQTSWVSGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
YUCCA1 1 -----MESHPHNKTDQTHLILVHGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
YUCCA2 1 -----MEFVTETLTKRIHDPVYEETFCMLVCGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL
YUCCA3 1 -----MYGNNNKKSINITSMFQNLIPESGDIFFSRRCVWVGGPIIVAGGPGSLAAACLEKGGVDSVLERSSCLASLWQRRMYDRLSL

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**NADPH**

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OsYUCCA1 64 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYMEAYAAAGVAPRFGATVEBAEFAAVGAWRVR-----LDGGEVLMARWLVVATGENAEP
OsYUCCA2 60 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
OsYUCCA3 101 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
OsYUCCA4 94 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
OsYUCCA5 93 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
OsYUCCA6 58 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
OsYUCCA7 70 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
YUCCA1 68 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
YUCCA2 75 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP
YUCCA3 84 HLPKFCFCELPIL-PPFAYEYFYPYPSKQDFVAYLESYAAAFINEMNHTVVCBAEDERLMLWRVRTTQATCMEDD-----MEYVSRWLVVATGENAEP

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OsYUCCA1 164 RVPDFFGKQKAG-CAMHTSEYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-NVHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA2 169 VLPVIDGEBBRC-SVHTSAYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DAVHLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA3 201 VLPVIDGEBBRC-SVHTSAYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DAVHLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA4 194 VLPVIDGAGRFGK-QMHTSSEYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DVHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA5 193 AMPABG-WGARG-AVHTSAYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DKTHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA6 158 VLPVIDGADDFEFPVSHVABYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DVHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
OsYUCCA7 170 VLPVIDGADDFEFPVSHVABYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DAVHLPREILGISTFGLAMALLRWLPLQLVDRILLTA
YUCCA1 168 YFPPEFGKQKAG-SVHTSAYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-NVHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
YUCCA2 175 VLPVIDGADDFEFPVSHVABYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-DVHVLPREILGISTFGLAMALLRWLPLQLVDRILLTA
YUCCA3 184 VLPVIDGADDFEFPVSHVABYKSGEAFAGKKVLVGCGNSGMEVSLDLCRHHGAKPMSMVVR-SAVHLPREILGISTFGLAMALLRWLPLQLVDRILLTA

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OsYUCCA1 264 AHLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA2 269 ARAILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA3 301 AQTMLGDTAQLGLRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA4 294 SRLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA5 293 SRLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA6 258 AMLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
OsYUCCA7 270 AMLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
YUCCA1 268 AMLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
YUCCA2 275 SRLILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS
YUCCA3 284 ARAILGNLQRFELRRPKTGPLELKNKTKGTPVLDVGLAKIKSGDIKVPFAIKQISGQVEFMDTRLEEFVILVILATGYKSNVPSWLKDFAGDLFTREGIS

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OsYUCCA1 364 KVFPPNSWRGRNGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA2 369 RKAFPPNGKGBGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA3 401 RKAFPPNGKGBGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA4 394 RKGN--AWKGNGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA5 393 RKAFPPNSWRGRNGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA6 358 VFPFP-GWKGBGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
OsYUCCA7 370 TAFPN-GWKGBGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
YUCCA1 368 KVFPPNSWRGRNGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
YUCCA2 375 KVFPPNSWRGRNGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----
YUCCA3 384 NFPFN-GWKGBGLYVGFTRRGLLCTSDANVAKDIHCQWRERDSAINVLEISNSFF-----

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Supplemental figure 1 (Yamamoto et al.)