

A

```

CaPUB1 : -----MEEIQVPEYFLCPISLEMMKDPVTIISGITYDRENIERWIFSAKN-----NCPVTK--QSLTSEIETLTPNVTLLRRFIQSWCT--LNASHGIERFPPTPKPPVSKAQLKLMKE--
OsPUB33 : -----MEEAAAEEVPSYFLCPISLEIMRDPVTIATGITYDRSSIERWMFGGCGDGGKCTCPVTRRCLAPAEREATPNHTLRRLIQAWCA----AAVEREPTPRPPVDSCRVAALVDEGT
OsPUB31 : --MAAMASAAAEVPSYFVCPISLQLMRDPVTITPTGISYDRAAIARWLAAPG----ARRTCPVTR--QPLEHGLELTPNHTLRRLIQSWAP--SVSPGSAVDEEVAALRPVSSDEVASLLS---
OsPUB32 : MEEQQQVEVEVEVPSYFVCPISLQIMRDPVTIIPGITYDRDGIERWILLTAG-----TCPLTK--CPVPDCEDETPNHTLRRLIQSWCA--IHAD--GVDLVETPKPEADRARVADLVSR--

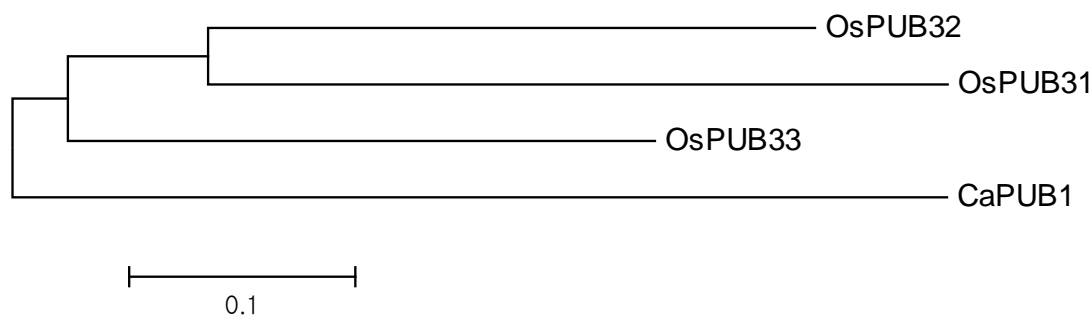
CaPUB1 : -----AKSREMOMKSIINTLRSTASVNDANKRCMES--AG--AEFLASVVVIDSSDVLGEEG-----FMSTKDEALSIIYQLKISEDGTIRSLITSGNG-EFTSITRVMORG
OsPUB33 : TTMLGGGGRQRQIAALREIKATAAESDRNKRCVEATPGAVEFLVSVVQSHAAASTSASSDDDDLFDSVIDSPMSTSSPEEALGVLYSLKPEPTLRRVIGKRDNGVGFIDILASVLRFP
OsPUB31 : -----DAAAAGVGFRLRELAACEEDSRAMLESQGGVFDVLSRVVTSGS--ACSTAR-----BEAVGVIASLRLEQELICVSTRHG--NLASITAVLRSS
OsPUB32 : --LRAATSSAALLDALRELRDVAEESERNRKLAAVPGAVDVLAAVVVASCRDAKAAC-----DEALEIVCSLELSERCLARLVERNE--ELVDALVATLQRT

CaPUB1 : SYESRAYAVMLMKDMFE--STLPTLFSSLKKEFFACVVRVLRDEISQKATKASIQVLAHACPFGRNRVKAABAGAVRVLDLLDSS---EKRTCELMILLLDQICQSAEGRAELINHPG
OsPUB33 : SYRSRAYAAILLKAVTSAMP--ERLMAVSEELIVEVVRVSDGVSSKAVKAALEHYLCRCPWGRNRVKAABAGAVEALVELLLDEEGGRRRAEELAVVAIDHLCCEAGRSELVAHPA
OsPUB31 : NLQSRHAVQLVRTLADAVV--EAWVIGLNAELLAEVVGVRDRVSARATKASLHALAALCPYGRHRVKIVGAGAVEALVELLLDEP---ERRVCELAVLDRLGCTCAEGRAELVAHAA
OsPUB32 : NTTSRHAHALLEAVTAVMP--SNRLVSTPEEVFGAVQLLRVSSPATRAALEVIVGTTSWGRNRVKAADAGAVEVLVDMLLDGPV---ERRGCELAALDRMCCAEGRALVSHGA

CaPUB1 : GLAIVSKKILRVSKVCSERAIKLIHSISKFSSTQSVVQEMLSIGVVAKLCLVQLVD--CGSKAKDRARDILKIHAKAWRNSPCTPMNLLSSYEF--
OsPUB33 : GLAVVSKRAMRVSPAATBSAVRALHAVARNAAPEVLCQEMLAVGVVAKLLLVQLAD--CGERARARAREMLRANARVWKDSPCLQAHKASYPG--
OsPUB31 : GVAVVCKVLRVSEAAERAVRVIRSVARHAATPEVLCQEMAQCGVVKLCIATRSEQGVKTKKAHEVVKLHSRVWRASPCISPSFLALYPS--
OsPUB32 : GVAVVGRKVLRVSEVASEKAVRVIRSVARHAATAPEVVCQEMGTCVAVKLCVVAQSEQCERTRERARETLRLHARAWRNSPCLQPHLQALYPS

```

B



**Fig. S1.** Sequence analysis of hot pepper CaPUB1 and rice U-Box E3 Ub ligase homologs, OsPUB31, OsPUB32, and OsPUB33. (A) Comparison of the derived amino-acid sequences of CaPUB1 with those of rice OsPUB31, OsPUB32, and OsPUB33 U-box proteins. Amino-acid residues that are conserved in all four proteins are shown in black and amino-acids that are conserved at least three of the four sequences are shaded. (B) Phylogenetic relation of CaPUB1 and rice homologs. Phylogenetic tree was generated using MEGA6 software .