Title: Flowering Time Pathway Maintained by: Mamatha Hanumappa Organism: Oryza sativa **CIRCADIAN CLOCK** HFR1 CKA1 CKA2 PRR59₂ PPR73 OsCam2 bZIP23 HD6 SINAT5 CK2alphaCp 38, 103 LUX OsMADS29 LHY ELF4 WNK1 CKB1 UV-DDB Hd2 CKB4 RBX1 TCPL1 ZŢ<u>Ļ</u>a₉₇ FUS9 DCAF1 GI DI19-2 24, 29 Hd2 MYB29 SNF2L (Photoperiod) bhlh102 SRR1 TOC1 CUL4B LUX Hd1 DsMADS50 bhlh102 PHYB Hd3a ZTL_{93,} PHYB/PHYD bhlh105 COL5 GI **Autonomous Pathway** PHYA FYPP3 COP1 OsCRY1b PCFS4 ELF3a CRY2 ESP4 ELF3b PFT1 NF-YB subunit NF-YB3 HAP3I HAP3F HAP3D ROC5 GI FY OsMADS51 FBO10 WNK4 FVE FBO1204, LEC1B NF-YB2 FPA OsCDF1 LKP24, 29 NF-YA subunit NF-YB4 NF-YB1 LEC1A NF-YB11 NF-YB13 FLK CDF2a ZTLa OsLD 2 bhlh79 miRNA ____ CDF3 EDM2 LDL3 2 SPA1 VIP2 CDF5 FCA SPA2 COL9a LHP1 COP1 PRMT5 Hd1 LWD HOS1 AP2 DREB1F NDPK2 TOE19 VEF Hd1 PIE1 NF-YC subunit DREB1G EMF GF14b GF1468 GF14c VIL2 ATX-1 FIO1 OsCO3 OsHUA2 NF-YC1 ²
NF-YC2
NF-YC2a
NF-YC8 OsPEP (Mp) ELF5 LHP1 ZOS1-05 ESD4a OsHB1a ATL6I LFL1 OsSPL14 NF-YC10 NF-YC11 CSD2 COL5 SRT2 SUS2 PR COMPLEX ES43a SDG25 ID1 SDG26 JMJ706 EZ1 FIE MSI1 ugar Metabolisn PHDfL MADS47 U2AF 58, 97 Ghd7 LTPL112 DH1 EZ3 VIL2 VRN1 Activation; Up-regulation PIE1 ARP6 nhibition; Down-regulation Hd3a OsMADS50 Bind VRN2 VRN5a SEF1 RAV1-like1 JMJ704 ELF9 Expression is altered EFS OsMADS31 Dof12 PAF1 FLX CPS1 Co-regulation OsMADS56 POLE1 EZ1 Transcript to Protein OsMADS6 REC14 EMF ELF8 ELF7 Complex PIN1OS FRI 24 GA GA OsMADS1 DPBF3 POLA1 VIP4a CDC73 FRL1 GID1 LHP1 FRL2 ES43a OsMADS22 Paralogs POLE1 ZnF36 2 Gibberellic Acid ZOS9-19 SLR1 SD FD1 Short Day JARID1C FAS2 Vernalization ZOS1-20 (V)miRNA BZR1 -OsMADS8 SPL13 To be moved into Pathway OsbZIP10 OsMADS27 MADS18 AGL9 OsMAD\$14 No orthologs found MADS61 OsMADS15 OsAREB3 26, 92 No orthologs in rice MADS72 To be moved into pathway Hd3a SLR1 FAC FD1 GF14c RCN2 Brassinosteroid OsMADS**1**64 MAF1 RCN1 EZ3 OsMFT1 OsMADS3 GAMyb MAF2 2 OsMADS59 bZIP72 MAF3 24 FPF1 SPY MAF424 OSE2 MAF5 4 OsABF2 _ABH1_ FBX77 CRP SNZ SFR6 Gal1 Actin DPNPase WNK8 LRK1 WNK8a MYB WNK8b FLOWERING