Appendixes

Receptor-like kinase *Os*ASLRK regulates methylglyoxal response and content in rice

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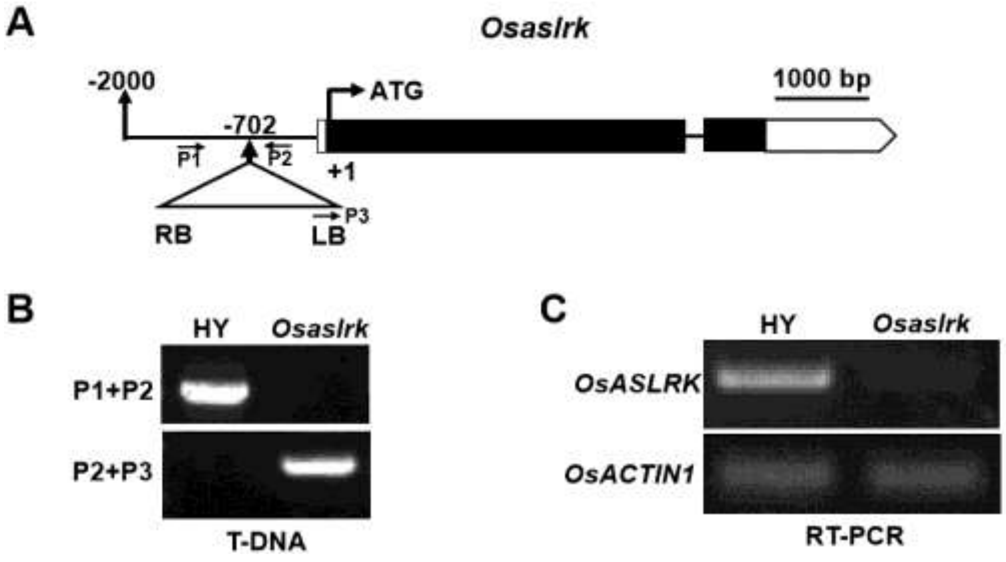
This file includes:

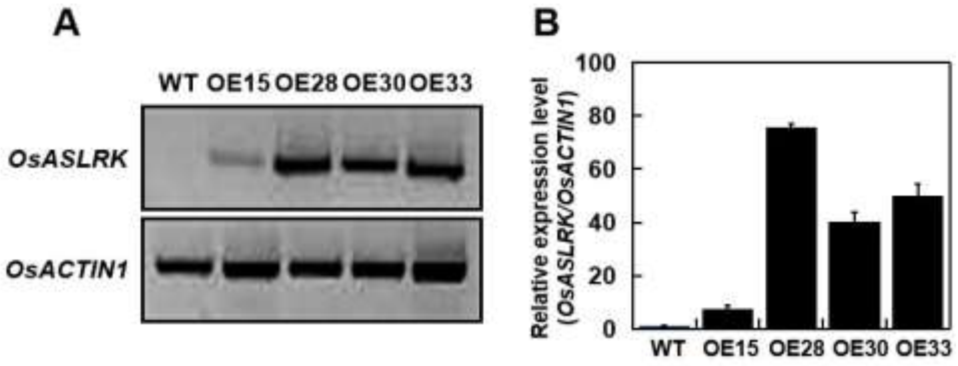
Appendix A-D

Appendix A Primers used in RT-qPCR in this study

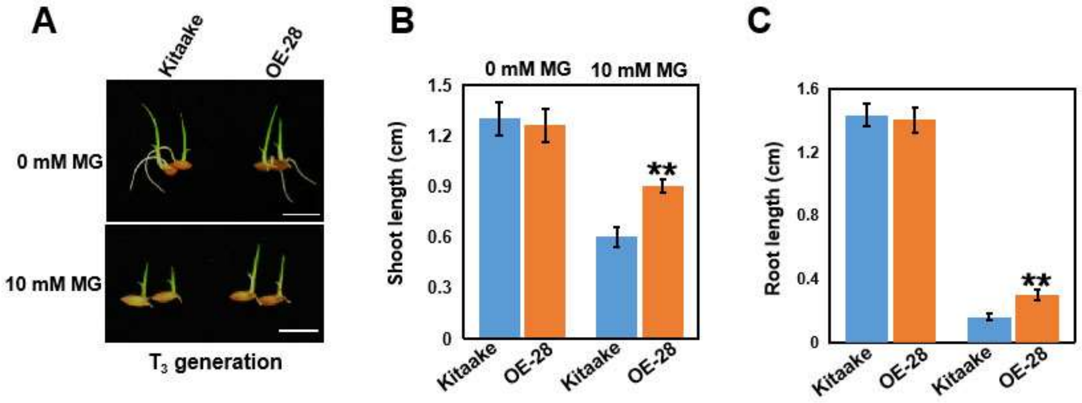
Primer name	Sequence (5’-3’)
RT-qPCR-*OsASLRK*-F	CGGCACCACTATCAATCGG
RT-qPCR-*OsASLRK*-R	CATTTCTGGTGCGTCTGCTC
RT-qPCR-*OsACTIN1*-F	AACATCGTTCTCAGTGGTGGTA
RT-qPCR-*OsACTIN1*-R	GGAGGACGGCGATAACAG
P1	CGATGTGGACACTCCCAGTC
P2	AACACGGCGACTCTACAAGG
P3	GGTGAATGGCATCGTTTGAA



Appendix B Molecular confirmation of the *Osaslrk* rice mutant. **A**, Schematic gene structure of *OsASLRK* showing the T-DNA insertion site. The position of the T-DNA insertion is indicated by triangles. White boxes indicate the untranslated regions and black boxes indicate exons. Thin lines between the exons represent introns. **B**, Homozygosity confirmation of the *Osaslrk* rice mutant (HY background) by triple-primer PCR analysis. Primer sequences of P1, P2 and P3 are given in Table S1. **C**, Transcript levels of *OsASLRK* in HY and the *Osaslrk* rice mutant analyzed by semi-quantitative RT-PCR.



Appendix C Molecular confirmation of the *OsASLRK* OE rice lines. **A**, Transcript levels of *OsASLRK* in WT (Kitaake) and several *OsASLRK* OE rice lines (OE15, OE28, OE30, and OE33) analyzed by semi-quantitative RT-PCR. The expression of *OsACTIN* was used as the loading control. **B**, Transcript levels of *OsASLRK* in WT (Kitaake) and several *OsASLRK* OE rice lines (OE15, OE28, OE30, and OE33) analyzed by quantitative RT-PCR. These experiments were repeated three times independently and produced similar results.



Appendix D MG sensitivity of the T_3 generation of *OsASLRK*-overexpressing rice line (OE-28) at the germination stage. **A,** Phenotypic comparison of the T_3 generation of *OsASLRK*-overexpressing rice line (OE-28) and WT (Kitaake) after germination and grown for 2 days in half-strength Murashige and Skoog (MS) medium (0 mM exogenous MG) or MS supplemented with 10 mM exogenous MG treatments. Bars, 1cm. **B,** Shoot length comparison of the plants in **A**. **C,** Root length comparison of the plants in **A**. Asterisks indicate significant differences between WT (Kitaake) and the *OsASLRK*-overexpressing rice line (**P < 0.01) by Student's *t*-test.