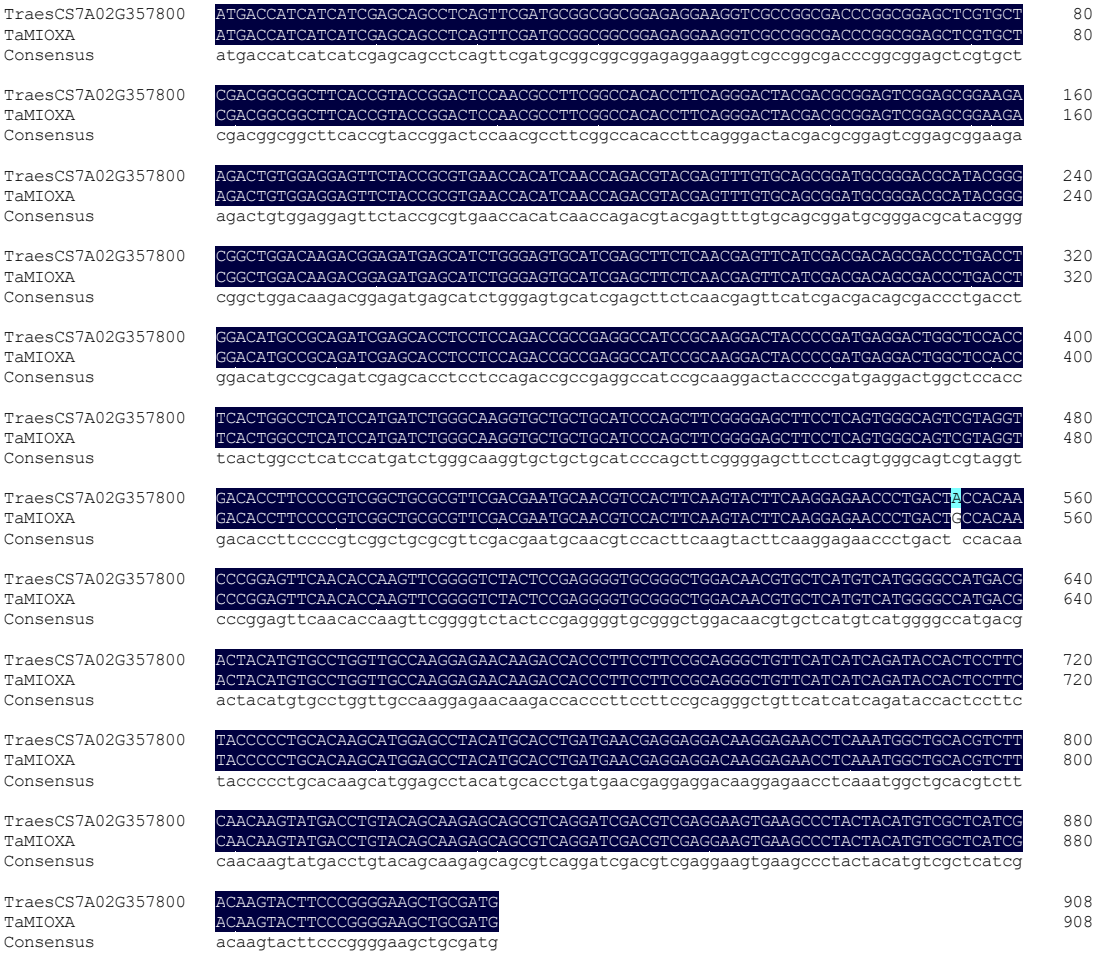
Supplementary Materials



Supplementary Figure S1. Sequence alignment between the reference TaMIOXA (TraesCS7A02G357800) and the PCR-amplified wheat sequence was performed using DNAMAN software.

Among them, TaMIOXB and TaMIOXD were attempted to be amplified from four wheat varieties representing different periods, but the target genes were not successfully obtained in either case.

Table S1. Primers used in this study.

Primer Name	Primer sequence (5' to 3')	Target Gene	Purpose
TaMIOXA-F	ATGACCATCATCATCGAGCAGC	TaMIOXA	**Cloning**
TaMIOXA-R	CCATCGCAGCTTCCCCGG	TaMIOXA	**Cloning**
TaMIOXA-1302-F	GGGACTCTTGACCATGGTACATGACCATCATC	TaMIOXA	Homologous Recombination
TaMIOXA-1302-R	TCTCCTTTACTAGTCAGATCTACCCATCGCAGCTT	TaMIOXA	Homologous Recombination
TaMIOXB-F	ATGACCATCATCATCGAGCAGC	TaMIOXB	**Cloning**
TaMIOXB-R	TCACCATCGCACCTTCCC	TaMIOXB	**Cloning**
TaMIOXD-F	ATGACCATCATCATCGAGCAGC	TaMIOXD	**Cloning**
TaMIOXD-R	TCACCATCTCAGCTTCCCCG	TaMIOXD	**Cloning**
TaMIOXB-F1	AGCATACCCATTACCGTCTTCTT	TaMIOXB	**Cloning**
TaMIOXB-R1	TCACCATCGCACCTTCCC	TaMIOXB	**Cloning**
TaMIOXD-F1	CAGACCCTGCTTCGCT	TaMIOXD	**Cloning**
TaMIOXD-R1	TCACCATCTCAGCTTCCCC	TaMIOXD	**Cloning**
TaMIOXD-F2	TTCGCTGCCGCGAG	TaMIOXD	**Cloning**
TaMIOXD-R2	TCACCATCTCAGCTTCCCC	TaMIOXD	**Cloning**
TaMIOXD-F3	TCTCAGACCCTGCTTCGCTG	TaMIOXD	**Cloning**
TaMIOXD-R3	CTTCGCTGCCGCGAGCTC	TaMIOXD	**Cloning**
Ta-MIOXA-QF	ATCGAGCAGCCTCAGTTCGA	TaMIOXA	**qPCR**
Ta-MIOXA-QF	CGCGGTAGAACTCCTCCACA	TaMIOXA	**qPCR**
26S-F	GCATATCAATAAGCGGAGGAAAAG	26S	**qPCR**
26S-R	GGTCCGTGTTTCAAGACGG	26S	**qPCR**

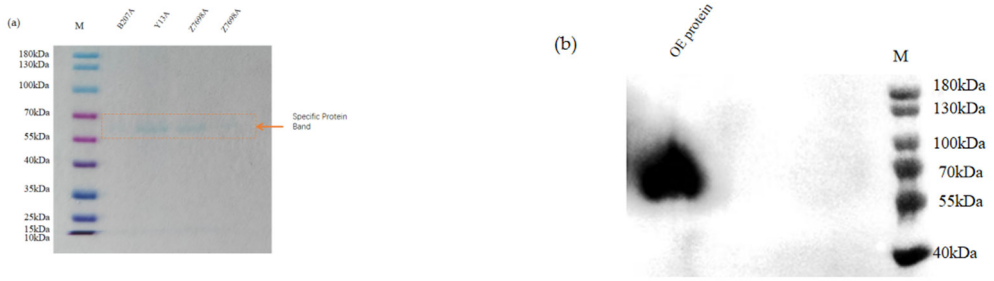


Figure S2. (a) SDS-PAGE analysis of leaf protein extracts from Bainong 207, Yangmai 13, and Zhengmai 7698 myo-inositol oxygenase A (MIOX A) overexpression lines after purification with His-tag affinity chromatography. (b) Western blot detection of MIOX A in leaf protein extracts from overexpression lines.