Supplemental File 1

**The gene sequences used in this research.**

Including CDS and protein sequences of TaSODs, and protein sequences of other plant SOD gens.

1. **CDS sequences**

>TaSOD1.1.a

CAGATCACACACACAATGGTGAAGGCTGTGGCTGTGCTTACCGGCAGTGAGGGTGTCAAGGGCACCATCTTCTTCACCCAGGAGGGAGAGGGCCCGACCACCGTGACGGGAAGTGTCACCGGACTCAAGGAAGGGCTCCACGGCTTCCATGTGCACGCTCTTGGCGACACCACCAATGGCTGCATGTCAACTGGACCACACTTCAACCCTGCTGGTCATGTGCATGGGGCACCCGAAGATGAAATCCGCCATGCTGGTGATCTTGGAAATGTGACAGCTGGAGTGGATGGTGTTGCTAGCATCAATATTACTGACTGCCATATCCCCCTTACTGGACCAAATTCAATTGTTGGCCGTGCTGTTGTCGTCCATGGTGACGCTGATGATCTTGGCAAGGGTGGACATGAGCTGAGCAAGAGCACTGGAAACGCTGGTGCACGTGTTGCTTGCGGAATCATCGGGCTCCAGGGCTAA

>TaSOD1.1b

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>TaSOD1.2

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>TaSOD1.3

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>TaSOD1.4

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>TaSOD1.5b

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>TaSOD2.8

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>TaSOD2.9

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1. **Protein sequences of wheat SOD**

>TaSOD1.1a

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>TaSOD1.1b

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>TaSOD1.2

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LAQVNMELARVEATFSGLSPGKHGWSINEFGDLTKGAESTGKVYNPQDYLSDKPLGDLGT

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TCDGVTIWESS\*

>TaSOD1.3

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GVTIWESS\*

>TaSOD1.4

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DADDLGKGGHELSKSTGNAGARVACGIIGLQG\*

>TaSOD1.5a

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AGENGEAQFSGSKEKLKVVDLIGRSIALYATEDRSDPGIAAAVVARSAGVGENYKKLCTC

DGVTIWESS\*

>TaSOD1.5b

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IEATFSGLSPGKHGWSINEFGDLTKGAESTGKVYNPQDYLSDKPLGDLGTLEAGENGEAQ

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S\*

>TaSOD1.6a

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>TaSOD1.6b

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>TaSOD1.7a

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>TaSOD1.7b

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>TaSOD1.8a

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>TaSOD1.8b

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>TaSOD1.9

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>TaSOD1.10

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>TaSOD1.11a

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>TaSOD1.11b

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>TaSOD2.1

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>TaSOD2.2

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>TaSOD2.3

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>TaSOD2.4

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>TaSOD2.5

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>TaSOD2.6

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>TaSOD2.7

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>TaSOD2.8

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>TaSOD2.9

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1. **Protein sequence of Arabidopsis, rice, and maize.**

>AT1G08830.1

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>AT3G56350.1

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>AT5G18100.1

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>AT5G23310.1

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>AT5G51100.1

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>LOC\_Os03g22810.1

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>LOC\_Os04g48410.1

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>LOC\_Os05g25850.1

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>LOC\_Os06g02500.1

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>LOC\_Os06g05110.1

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>LOC\_Os08g44770.1

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