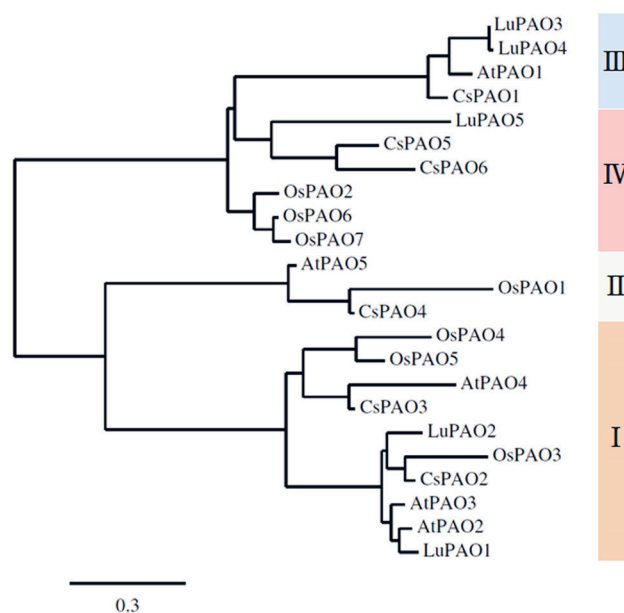


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**On-line Suppl. Tab. 1.** Primer sequences of *Linum usitatissimum* polyamine oxidase genes for qReal-time PCR analysis.

Primer	Sequences (5'-3')
LuPAO1-F	GAGTCCCGGTCGATAACCTA
LuPAO1-Rev	CAATCTTCAGCAGCCATCAT
LuPAO2-F	CTCGCAAGAGATGTCCAGAA
LuPAO2-Rev	AGGAACCAAGGGAGTTGATG
LuPAO3-F	AGAATGGGATTGAGGACCTG
LuPAO3-Rev	TTAGCCTCTTTACCGCCAAT
LuPAO4-F	GCGTGGCTGTTACAGTGATT
LuPAO4-Rev	TACCAGCAAGGTATCCACCA
LuPAO5-F	GCCGGAATGTCTGGAATATC
LuPAO5-Rev	GCTGAAATCGGTCTTCAACA
LuActin-F	ACAGGGAGAAGATGACACAG
LuActin-R	ACCAGAATCCAGCACAAATAC

**On-line Suppl. Fig. 1.** Phylogenetic analysis of polyamine oxidase (PAO) family in flax and other plants. The genes and accession numbers used were AtPAO1 (*Arabidopsis thaliana* PAO1, At5g13700); AtPAO2 (*Arabidopsis thaliana* PAO2, At2g43020); AtPAO3 (*Arabidopsis thaliana* PAO3, At3g59050); AtPAO4 (*Arabidopsis thaliana* PAO4, At1g65840); AtPAO5 (*Arabidopsis thaliana* PAO5, At4g29720); OsPAO1 (*Oryza sativa* PAO1, NM\_001050573); OsPAO2 (*Oryza sativa* PAO2, NM\_001055782); OsPAO3 (*Oryza sativa* PAO3, NM\_001060458); OsPAO4 (*Oryza sativa* PAO4, NM\_001060753); OsPAO5 (*Oryza sativa* PAO5, NM\_001060754); OsPAO6 (*Oryza sativa* PAO6, NM\_001069545); OsPAO7 (*Oryza sativa* PAO7, NM\_001069546); CsPAO1 (*Citrus sinensis* PAO1, Cs7g02060.1); CsPAO2 (*Citrus sinensis* PAO2, Cs7g18840.2); CsPAO3 (*Citrus sinensis* PAO3, Cs6g15870.1); CsPAO4 (*Citrus sinensis* PAO4, Cs4g141 50.1); CsPAO5 (*Citrus sinensis* PAO5, Cs7g23790.1); CsPAO6 (*Citrus sinensis* PAO6, Cs7g23670.1). I, II, III and IV indicate four major classes of polyamine oxidase family.

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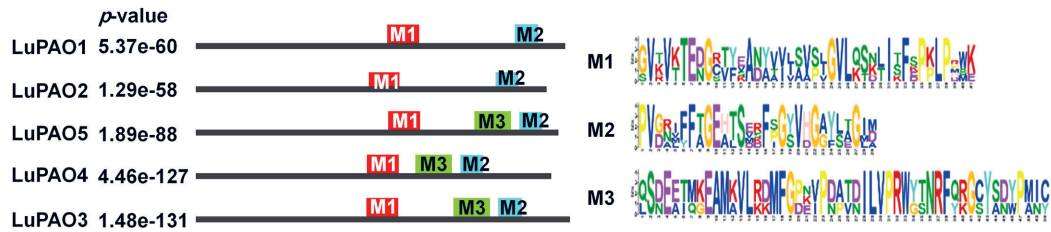
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LuPAO4 360 GEHTSERFSGYVHGGYLAGIDTSKSVLEIDIKLSKEKETENQTFLLLEFLA
LuPAO1 433 GEATSVSFPGSVHCAFSTEMMAA-----IDCRMRVLERYGEMDLFTQPEIA
LuPAO2 406 GEATSMDFPGSVHCAFSTELMAA-----IDCRMRVLEGYGEVDLFQEVMG
LuPAO5 438 GEHLSDFKIFCYVDCAVLECIATAEELIKCIKGDGCQGEKNMSIE-----

LuPAO3      SLSLTTQTEAAVSNLHK-----CDIPTQLCIGGNL
LuPAO4      SLSLTTQTEAVTDKLEAENDYENTLDWVTGVEKGTSAAYAVPALEAI INHM
LuPAO1      EE--ISIPLLI SRI-----
LuPAO2      GEGLVSIPIINI SRI-----
LuPAO5      -----

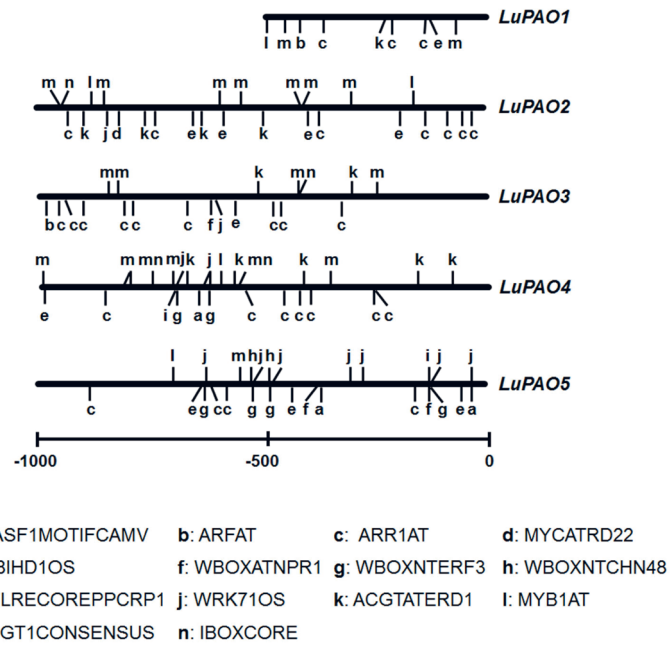
LuPAO3      GMSEGIL-----
LuPAO4      DDSQHGLDPRETL
LuPAO1      -----
LuPAO2      -----
LuPAO5      -----

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**On-line Suppl. Fig. 2.** Multiple sequence alignment of *Linum usitatissimum* polyamine oxidase (LuPAO) C-terminal regions. Peroxisomal targeting signals of LuPAO1 and LuPAO2 are indicated in red.



**On-line Suppl. Fig. 3.** Putative motif distribution in *Linum usitatissimum* polyamine oxidase (LuPAO) proteins. Motifs of LuPAO proteins were investigated by MEME web server.



**On-line Suppl. Fig. 4.** Putative *cis*-acting regulatory elements related to stress and hormone responses in promoter regions (5' to 3' direction) of the *Linum usitatissimum* polyamine oxidase (LuPAO) gene family.