

Table S1. The list of primers used for gene expression analysis by quantitative Real Time PCR

Primer name	Sequence (5'-3')
NyElf1-F1	AAGGCCAAGGCACCCAAGCTG
NyElf1-R1	ACCACACCAAGAGCGTCCAATC
NySPL1-F1	ATGCTGTTCCCTTCCCCAGA
NySPL1-R1	TTGAAAGACGGGAAGTCACC
NySPL2-F1	CGCCGTTTACAAGGTGAAGT
NySPL2-R1	GTCTCTGCCACGTTCTGGAT
NySPL3-F1	GACTGGTTCACGGGCTTCTA
NySPL3-R1	CGGTTGTTGAGCGAGAAGAT
NySPL4-F1	CTACCGCGTGTCTTCAACT
NySPL4-R1	GTCCTTCATGCCCCGGAGT
NyFAL1-F1	ACGACTTTTCCCTCCTCCTC
NyFAL1-R1	GGGCTTGACATTGTCCTCAT
NyFAL2-F1	ACAATGTGGACGGTGTGTTC
NyFAL2-R1	GCAAAGTCGTACAGCGTCCT
NyFAL3-F1	TCCTCGAGTTTCACATGACG
NyFAL3-R1	TCCGTTTCCAGGATCTTCAC
NyFAL4-F1	AGCGCATTCTGTCCTACCAC
NyFAL4-R1	TGACGTGTACCACACCGTTC
NyFAL5-F1	GATGAAGGGGGTTGGGTACT
NyFAL5-R1	GGTACCAGGACGCTGTCAAT
NyFAL6-F1	GCCTCGACTATGAGCTGTCC
NyFAL6-R1	GAGGATGTGGTAGGCAAGGA
NyFAL7-F1	CGGATCGTGTACTGGGCTAC
NyFAL7-R1	GTGTAGGCGAGGATGGAAAA
NyFAL8-F1	ACCAACGATGCTTTCCTGTC
NyFAL8-R1	CGTTGAGGAGGGATTCGTAA

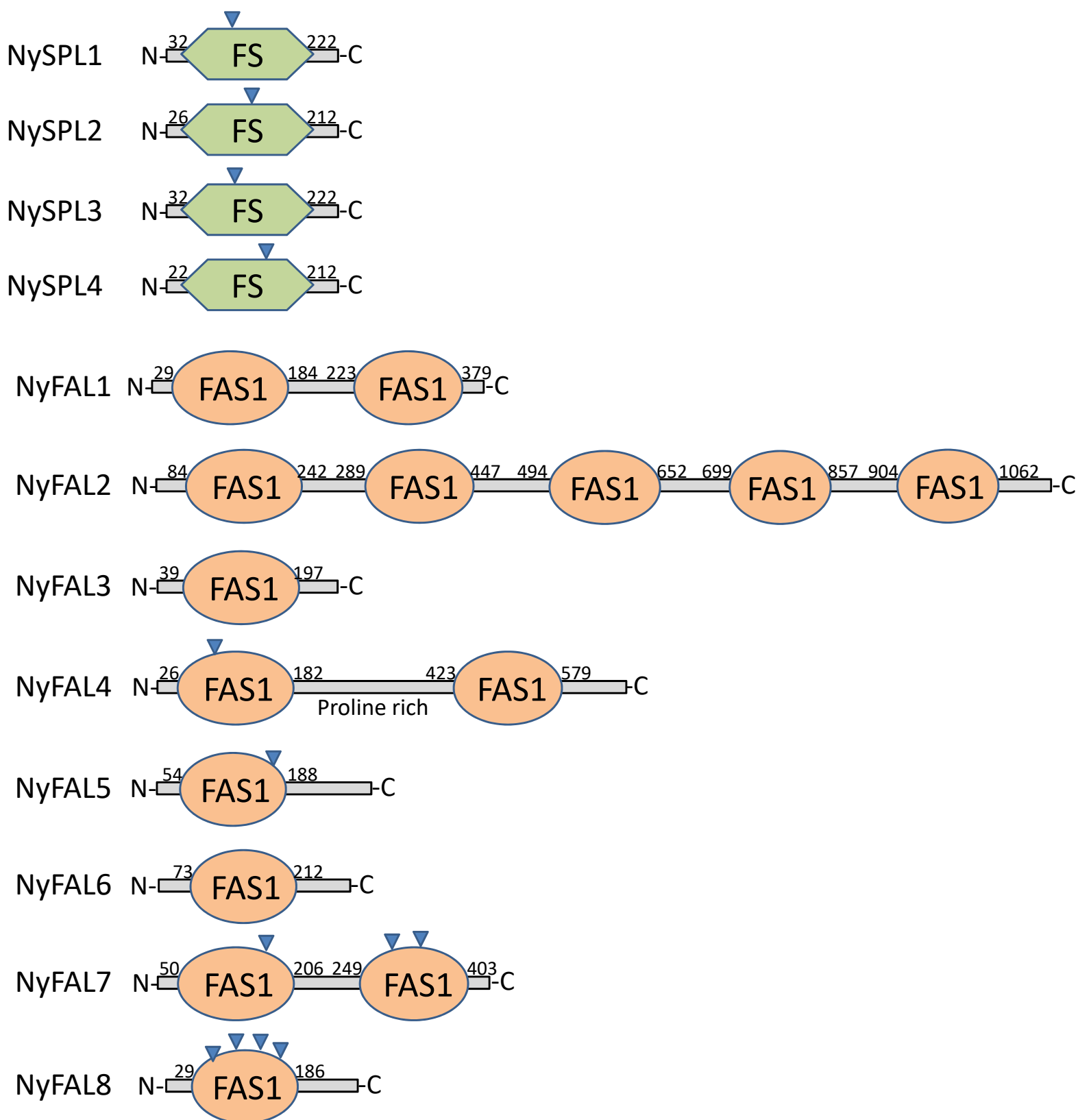


Figure S1. Schematic representations of the conserved domains of NySPLs and NyFALs. Domains were determined by searching NySPL and NyFAL sequences in ScanProsite. FS; F-spondin domain, FAS1; Fasciclin 1 domain. The position of the putative N-glycosylation site is indicated using a triangle. Numbers correspond to amino acid positions from the first methionine residue

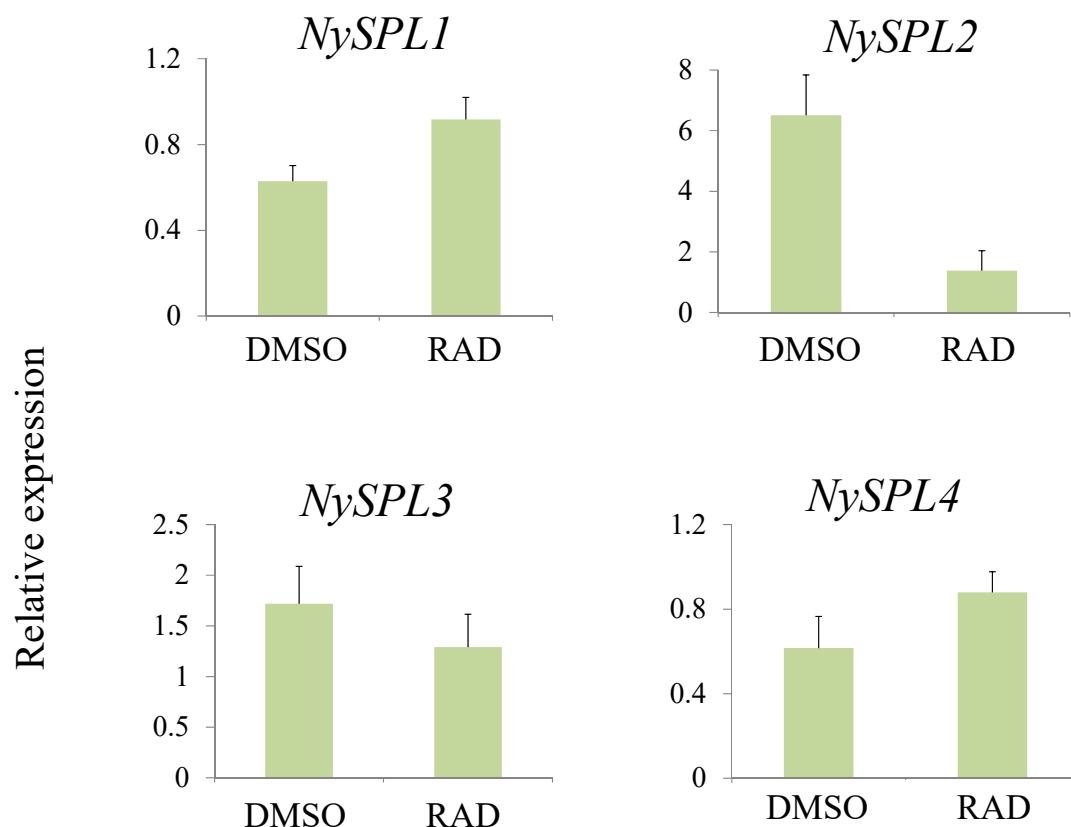


Figure S2. Relative expression levels of *NySPLs* genes in *Neopyropia yezoensis* during asexual re-production. RNA samples were prepared from gametophytes treated with Hsp90-inhibiting drug, radicicol (RAD), or dimethyl sulfoxide (DMSO, control) for 7 days. Expression levels were as-sessed using *NyElf1* for normalization. Results were then presented as relative expression and compared with that in non-treated gametophytes (0 day). Data are presented as means $\pm$ stand-ard deviations ($n = 3$)

Relative expression

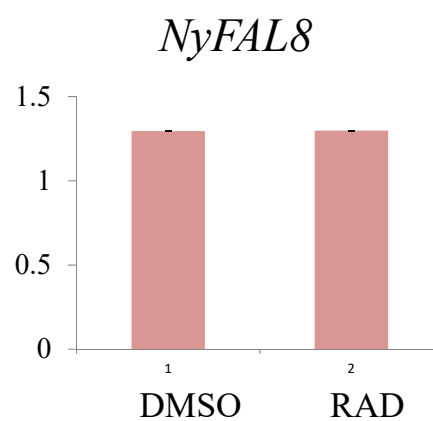
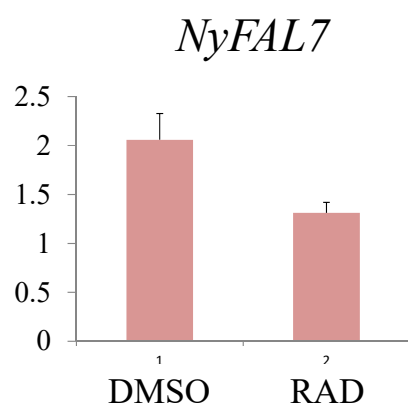
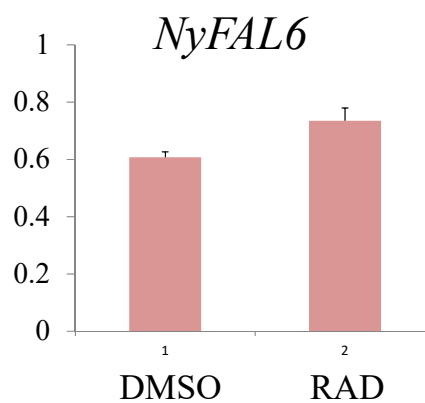
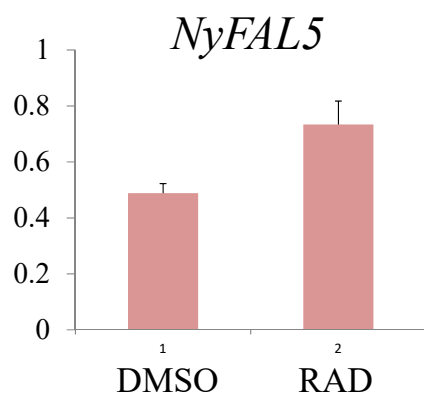
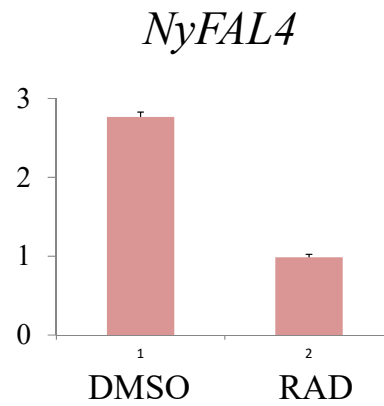
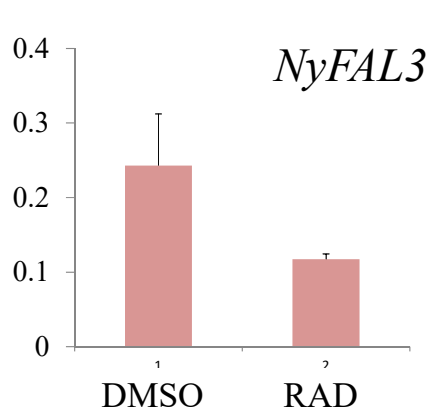
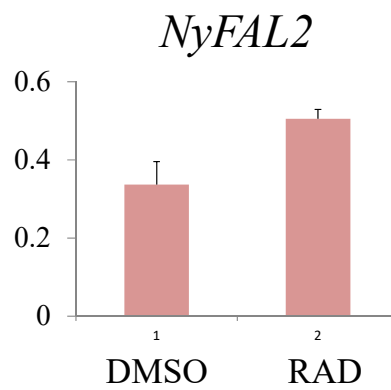
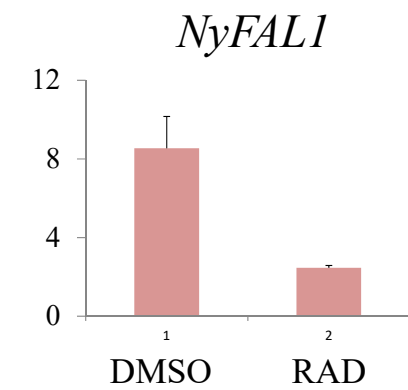


Figure S3. Relative expression levels of *NyFALs* genes in *Neopyropia yezoensis* during asexual reproduction. RNA samples were prepared from gametophytes treated with Hsp90-inhibiting drug, radicicol (RAD), or dimethyl sulfoxide (DMSO, control) for 7 days. Expression levels were assessed using *NyElf1* for normalization. Results were then presented as relative expression and compared with that in non-treated gametophytes (0 day). Data are presented as means $\pm$ standard deviations ($n = 3$)