

A

	AtAGP2	AtAGP3	AtAGP4	AtAGP7	AtAGP5	AtAGP10	AtAGP9	AtAGP1	AtAGP58	AtAGP17	AtAGP18	AtAGP6	AtAGP11	AtAGP25	AtAGP27	AtAGP26	AtAGP51
AtAGP2		56.3	42.8	41.3	30.7	27.1	23.8	25.0	20.4	20.9	16.1	21.0	21.4	16.8	14.6	18.5	13.9
AtAGP3	56.3		37.5	38.0	30.6	32.6	21.6	28.8	20.1	22.3	19.6	20.4	20.4	21.0	14.7	22.6	18.8
AtAGP4	42.8	37.5		61.6	39.3	38.1	28.9	29.0	23.8	21.5	18.0	29.4	29.5	20.0	17.9	20.0	17.4
AtAGP7	41.3	38.0	61.6		34.3	33.1	26.7	28.7	23.1	22.1	18.0	24.8	24.1	17.6	18.9	17.7	15.2
AtAGP5	30.7	30.6	39.3	34.3		40.4	21.3	29.5	21.0	22.1	16.1	22.9	22.1	18.2	15.9	16.6	12.4
AtAGP10	27.1	32.6	38.1	33.1	40.4		18.3	28.7	19.6	19.9	16.6	23.2	22.8	16.8	16.3	24.4	15.0
AtAGP9	23.8	21.6	28.9	26.7	21.3	18.3		15.5	23.1	20.3	22.8	13.4	20.1	17.1	13.0	16.2	14.9
AtAGP1	25.0	28.8	29.0	28.7	29.5	28.7	15.5		25.9	18.8	14.6	21.7	22.5	16.9	14.0	15.8	9.6
AtAGP58	20.4	20.1	23.8	23.1	21.0	19.6	23.1	25.9		19.4	20.0	19.4	19.4	14.5	11.8	15.7	15.7
AtAGP17	20.9	22.3	21.5	22.1	22.1	19.9	20.3	18.8	19.4		44.3	21.6	21.1	11.7	11.7	16.8	15.0
AtAGP18	16.1	19.6	18.0	18.0	16.1	16.6	22.8	14.6	20.0	44.3		19.6	18.0	12.8	11.4	13.9	14.1
AtAGP6	21.0	20.4	29.4	24.8	22.9	23.2	13.4	21.7	19.4	21.6	19.6		51.0	13.9	13.7	14.3	16.2
AtAGP11	21.4	20.4	29.5	24.1	22.1	22.8	20.1	22.5	19.4	21.1	18.0	51.0		14.8	15.2	15.6	17.6
AtAGP25	16.8	21.0	20.0	17.6	18.2	16.8	17.1	16.9	14.5	11.7	12.8	13.9	14.8		31.0	19.8	14.0
AtAGP27	14.6	14.7	17.9	18.9	15.9	16.3	13.0	14.0	11.8	11.7	11.4	13.7	15.2	31.0		15.1	12.0
AtAGP26	18.5	22.6	20.0	17.7	16.6	24.4	16.2	15.8	15.7	16.8	13.9	14.3	15.6	19.8	15.1		13.0
AtAGP51	13.9	18.8	17.4	15.2	12.4	15.0	14.9	9.6	15.7	15.0	14.1	16.2	17.6	14.0	12.0	13.0	

B

	AtEXT15	AtEXT18	AtEXT11	AtEXT16	AtEXT9	AtEXT2	AtEXT10	AtEXT7	AtEXT13	AtEXT8	AtEXT17	AtEXT22	AtEXT20	AtEXT21	AtEXT35	AtEXT1	AtEXT3	AtLRX1
AtEXT15		56.1	50.1	43.6	24.5	35.4	25.7	47.0	55.7	39.1	27.5	28.6	30.1	30.2	15.6	20.3	31.5	17.0
AtEXT18	56.1		62.2	53.6	31.8	47.1	34.1	57.9	71.4	32.5	34.1	34.9	39.9	39.8	13.6	21.0	38.0	22.6
AtEXT11	50.1	62.2		84.0	55.2	67.3	59.0	81.5	75.5	28.0	39.3	30.3	45.5	46.0	11.5	20.0	36.3	24.2
AtEXT16	43.6	53.6	84.0		54.8	72.1	56.3	84.2	63.7	25.9	38.6	26.1	49.1	49.1	10.7	18.6	34.2	25.6
AtEXT9	24.5	31.8	55.2	54.8		61.7	84.2	49.9	37.8	19.0	24.9	17.0	36.5	36.2	8.5	14.8	25.4	21.6
AtEXT2	35.4	47.1	67.3	72.1	61.7		68.7	73.7	56.5	22.9	35.9	24.7	44.8	44.0	10.2	17.5	30.4	23.5
AtEXT10	25.7	34.1	59.0	56.3	84.2	68.7		53.4	40.4	20.6	26.3	18.1	39.9	39.2	9.2	15.9	27.4	22.2
AtEXT7	47.0	57.9	81.5	84.2	49.9	73.7	53.4		72.2	26.3	43.3	29.1	51.1	50.7	10.7	18.8	34.9	25.8
AtEXT13	55.7	71.4	75.5	63.7	37.8	56.5	40.4	72.2		33.3	38.1	37.0	44.2	43.7	13.9	21.8	40.4	23.8
AtEXT8	39.1	32.5	28.0	25.9	19.0	22.9	20.6	26.3	33.3		24.0	30.4	27.3	27.8	22.9	19.8	29.1	15.3
AtEXT17	27.5	34.1	39.3	38.6	24.9	35.9	26.3	43.3	38.1	24.0		34.5	57.7	59.3	11.6	19.0	32.7	19.3
AtEXT22	28.6	34.9	30.3	26.1	17.0	24.7	18.1	29.1	37.0	30.4	34.5		47.0	43.3	15.1	19.2	30.2	17.9
AtEXT20	30.1	39.9	45.5	49.1	36.5	44.8	39.9	51.1	44.2	27.3	57.7	47.0		81.3	11.4	20.0	35.7	25.4
AtEXT21	30.2	39.8	46.0	49.1	36.2	44.0	39.2	50.7	43.7	27.8	59.3	43.3	81.3		12.3	20.3	33.7	24.0
AtEXT35	15.6	13.6	11.5	10.7	8.5	10.2	9.2	10.7	13.9	22.9	11.6	15.1	11.4	12.3		12.5	12.7	6.3
AtEXT1	20.3	21.0	20.0	18.6	14.8	17.5	15.9	18.8	21.8	19.8	19.0	19.2	20.0	20.3	12.5		38.8	11.5
AtEXT3	31.5	38.0	36.3	34.2	25.4	30.4	27.4	34.9	40.4	29.1	32.7	30.2	35.7	33.7	12.7	38.8		21.2
AtLRX1	17.0	22.6	24.2	25.6	21.6	23.5	22.2	25.8	23.8	15.3	19.3	17.9	25.4	24.0	6.3	11.5	21.2	

Supplemental Fig. S1. Identity of GPI-AGPs (A) and CL-EXTs (B) Percent identity (distance matrices) were generated in Geneious from a MUSCLE alignment (MEGA) using default parameters. Order of sequences was manually changed to match the ML trees **Fig. 2C,D**. Shading shows 0-15% identity (red), 25-50% identity (yellow), 50-100% identity (green).