

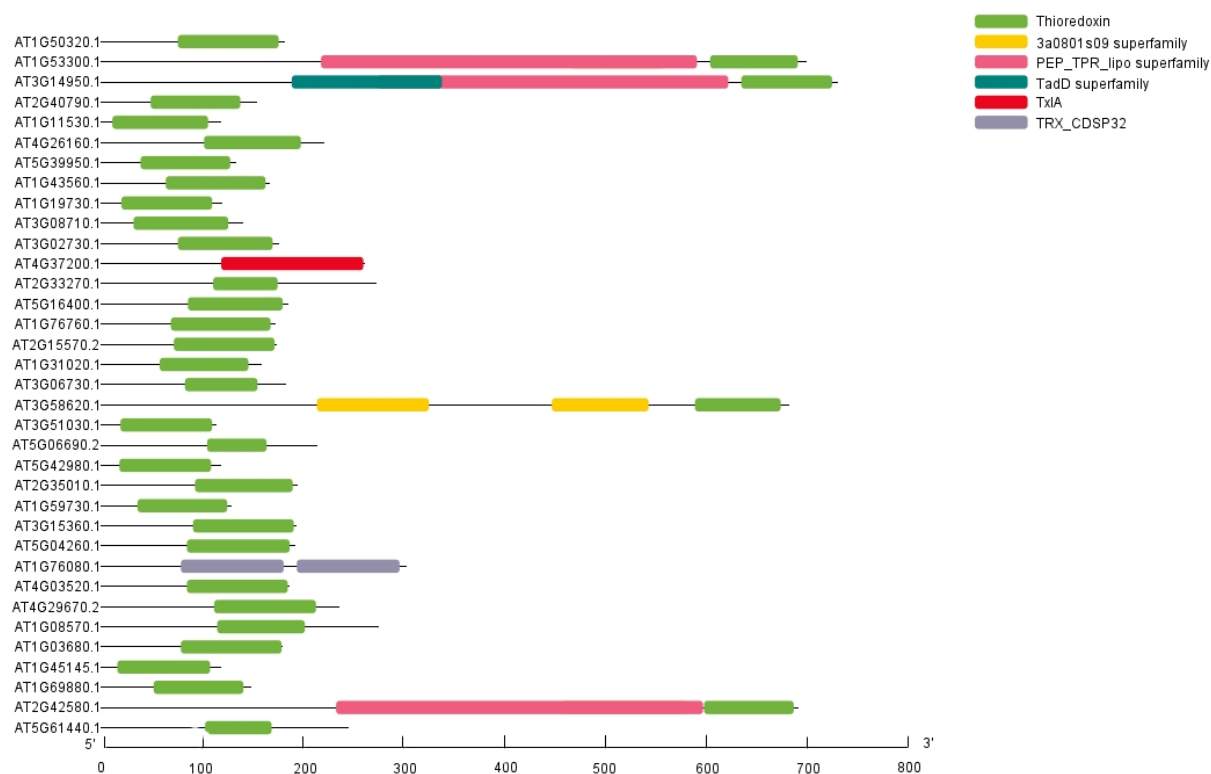
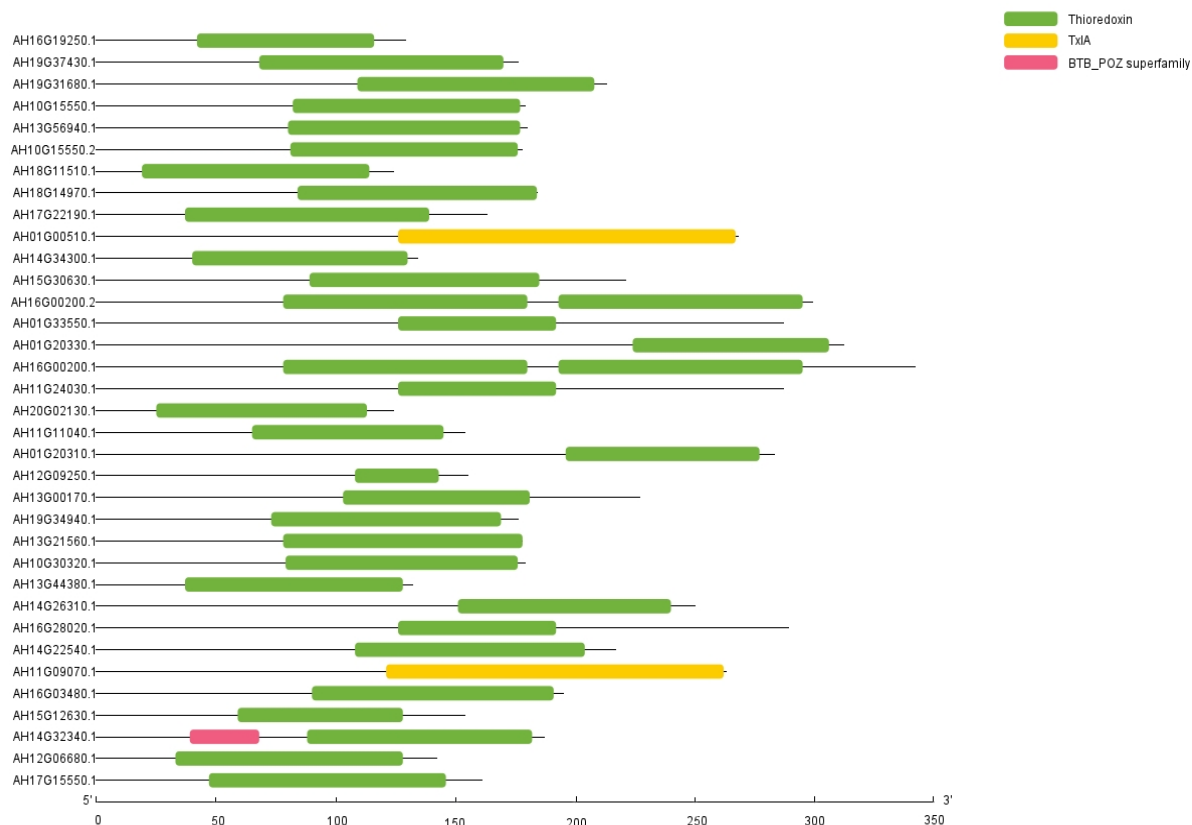


Fig. 1 Suppl. The conserved domains of the Trx family in *Arabidopsis*. All proteins contain at least one of three Trx domains: thioredoxin domain (green), TxIA domain (red), and TRX_CDSP32 domain (grey).

A



B

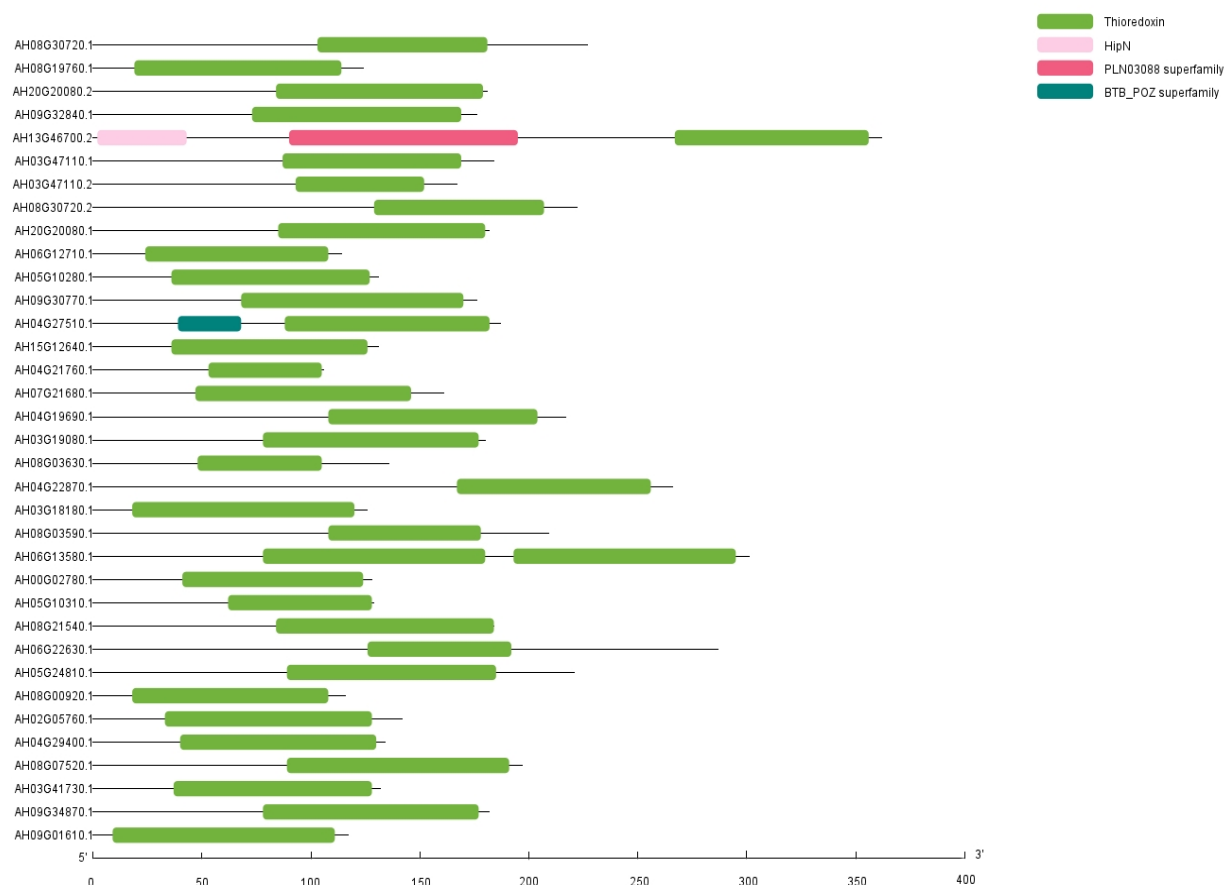


Fig. 2 Suppl. The conserved domains of the Trx family in peanut. 35 Trx proteins are shown in *A*, the other 35 members in the *B*. All proteins contain at least one of two Trx domains: thioredoxin domain (*green*), Tx1A domain (*light orange*).

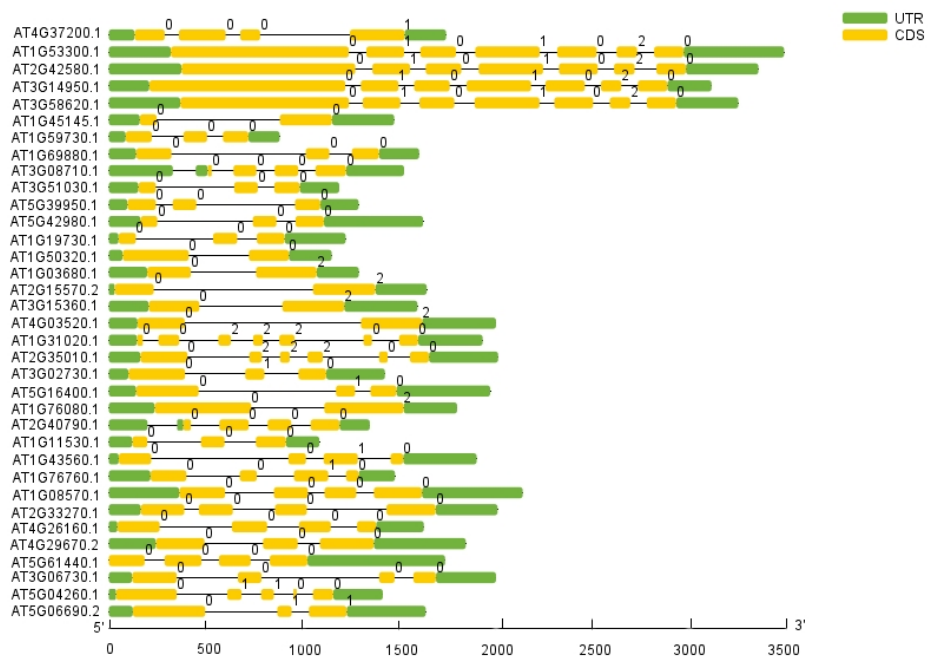
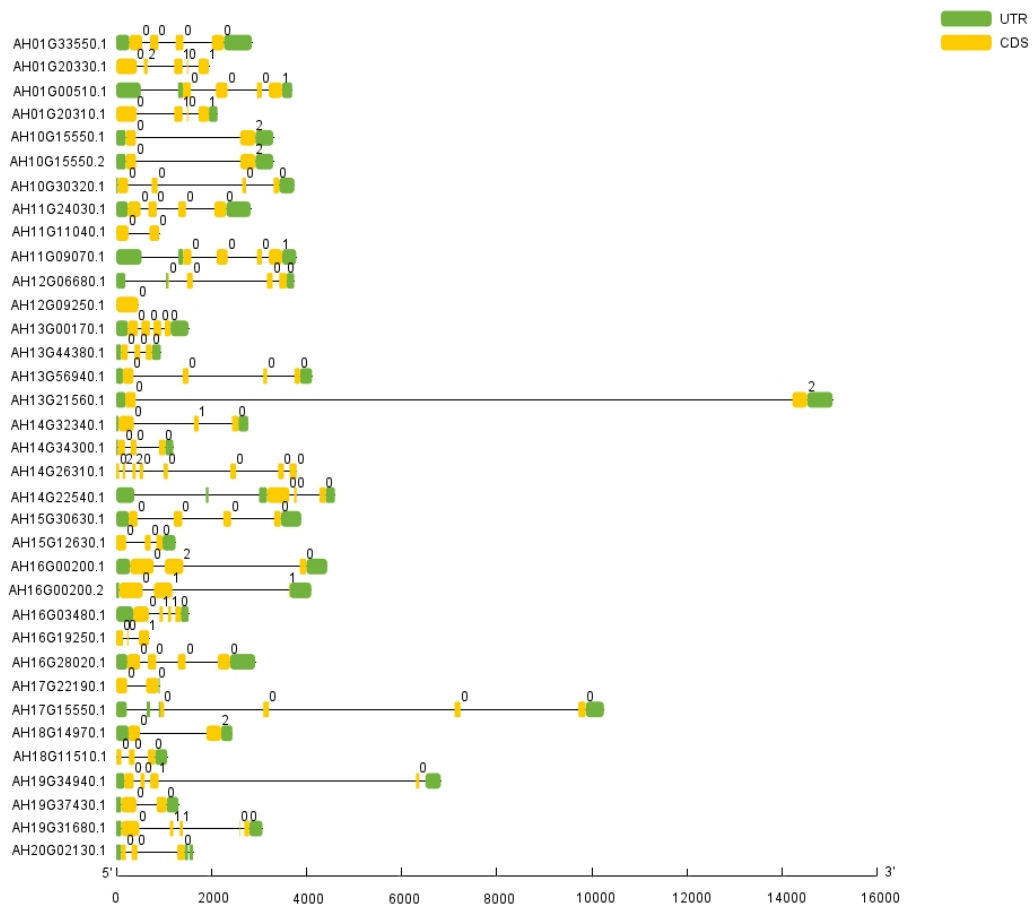


Fig. 3 Suppl. Gene structure map of *AtTrx*. The *green rectangles* in the map represent untranslated region (UTR), *yellow rectangles* represent coding sequence (CDS), the *black lines* represent introns. The numbers 0, 1, and 2 mean intron phase.

A



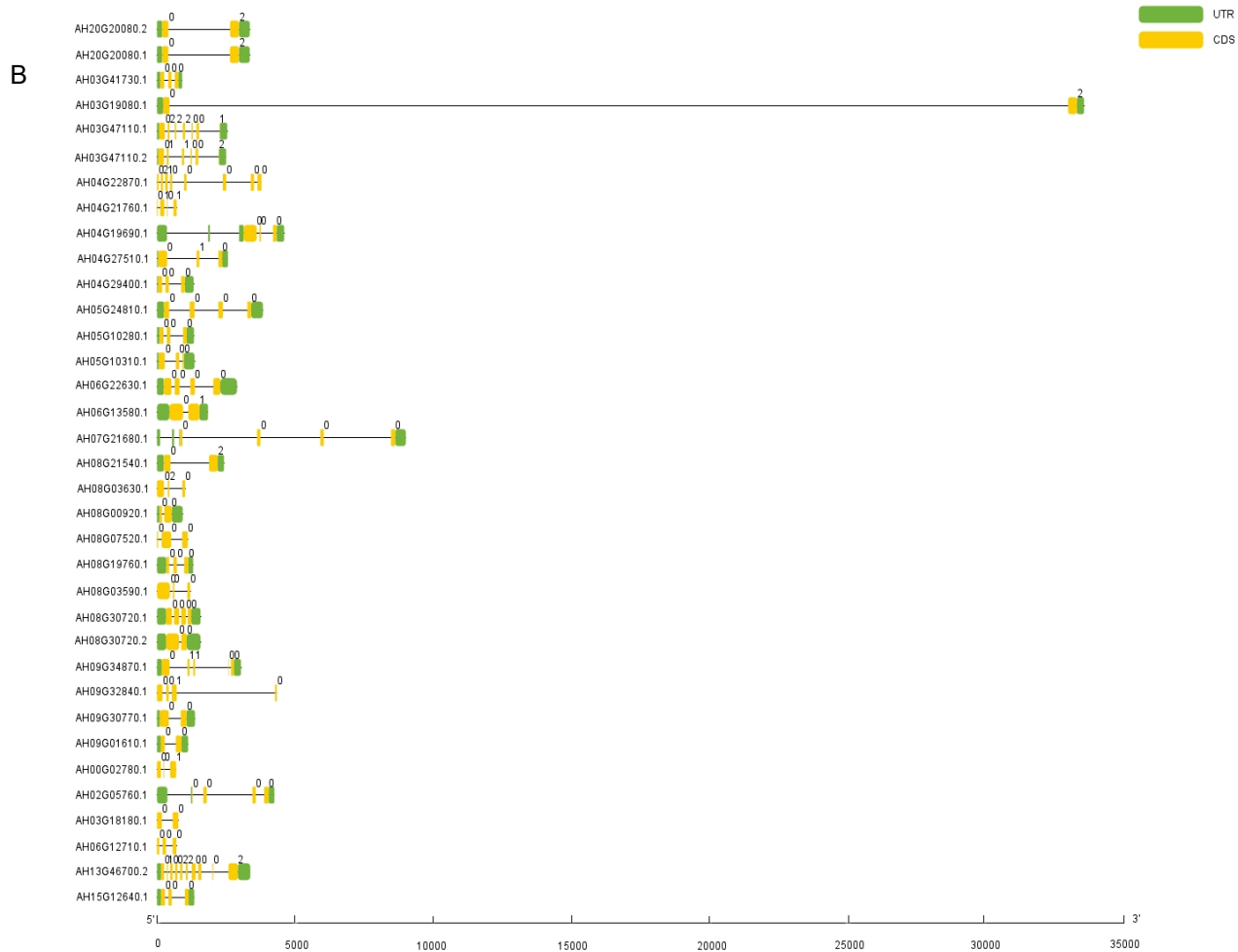


Fig. 4 Suppl. Gene structure map of *AhTrx*. 35 *Trx* genes are shown in the *A* part, the other 35 members in the *B* part. The *green rectangles* in the map represent untranslated regions (UTRs), the *yellow rectangles* represent coding sequences (CDS), the *black lines* represent introns. The numbers 0, 1, and 2 mean intron phase.

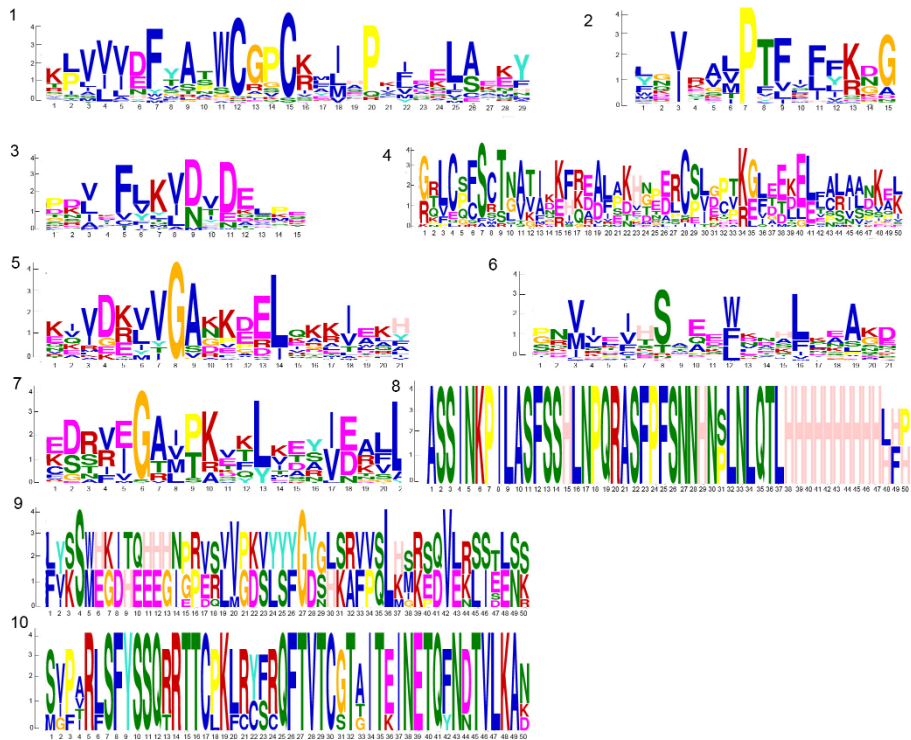
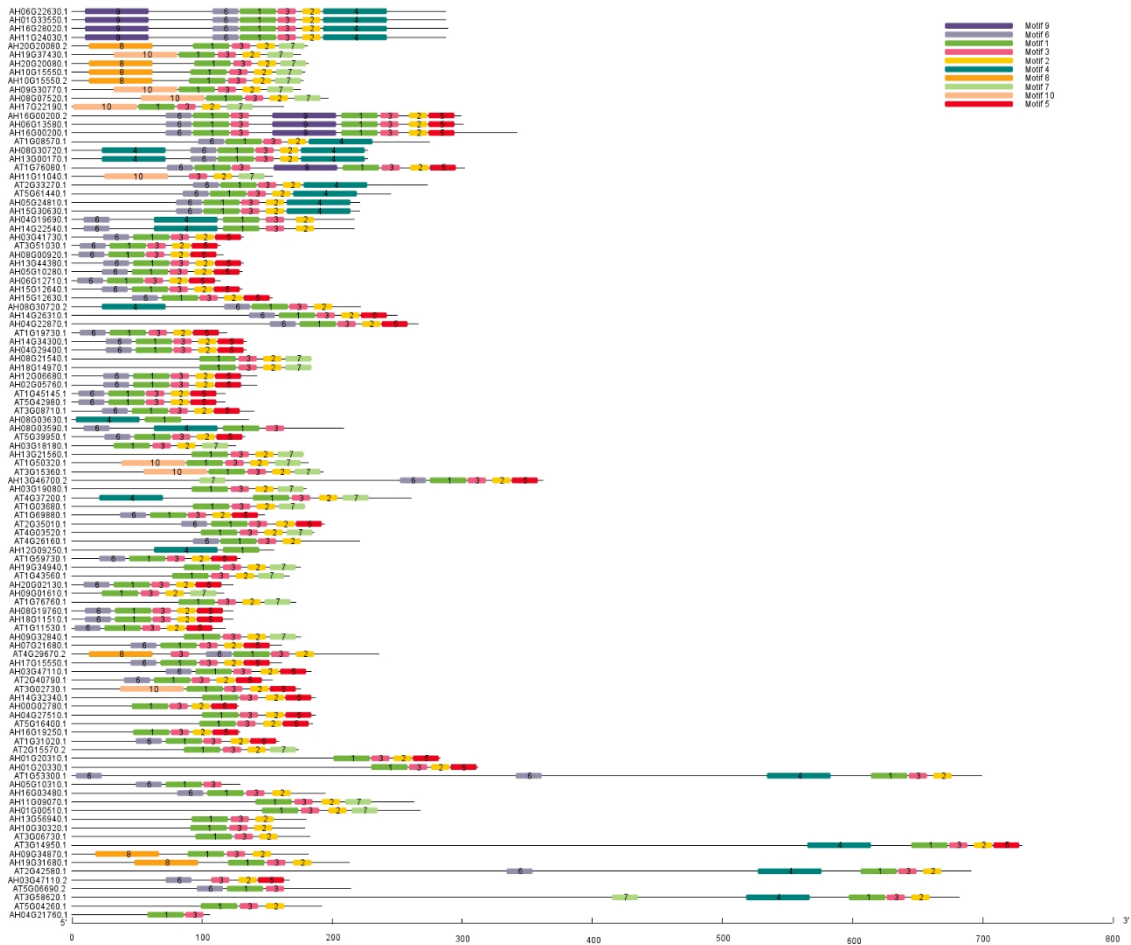


Fig. 5 Suppl. The motif composition and distribution of AhTrx and AtTrx proteins. The motif composition and distribution of Trx proteins are shown in the *A* part, and the conservative sequence of the motif in the *B* part. Characters 1-10 represent motifs 1-10 successively. The height of each character in the motif represents the degree of conservation of the amino acid at that position.

Table 1 Suppl. Identification of Trx protein family members in peanut (aa - number of amino acids, GRAVY - grand average of hydropathicity).

Gene ID	Size [bp]	Size (aa)	Theoretical pI	Molecular mass [Da]	GRAVY	Subcellular location	Signal peptide
AH01G33550.1	864	287	9.67	32130.05	-0.404	chloroplast	no
AH01G20330.1	939	312	9.19	34570.78	-0.139	mitochondria	no
AH01G00510.1	807	268	5.88	29609.37	-0.476	chloroplast	no
AH01G20310.1	852	283	9.50	31381.13	-0.215	chloroplast	no
AH10G15550.1	540	179	6.89	20412.45	-0.231	chloroplast	no
AH10G15550.2	537	178	6.89	20341.38	-0.242	chloroplast	no
AH10G30320.1	540	179	5.26	20462.64	-0.203	chloroplast	no
AH11G24030.1	864	287	9.67	32103.97	-0.422	chloroplast	no
AH11G11040.1	465	154	8.67	17411.15	-0.070	chloroplast	no
AH11G09070.1	792	263	6.14	29188.05	-0.473	chloroplast	no
AH12G06680.1	429	142	4.80	15983.11	-0.249	nuclear	no
AH12G09250.1	468	155	8.56	17910.51	-0.570	nuclear	no
AH13G00170.1	684	227	9.26	25112.43	-0.070	chloroplast	no
AH13G44380.1	399	132	9.44	15033.59	-0.264	chloroplast	no
AH13G56940.1	543	180	5.26	20542.72	-0.216	chloroplast	no
AH13G21560.1	537	178	9.20	19354.49	-0.015	chloroplast	no
AH14G32340.1	564	187	9.30	20588.94	-0.139	chloroplast	no
AH14G34300.1	405	134	5.69	14707.75	-0.207	cytoplasm	no
AH14G26310.1	753	250	6.09	28631.77	-0.342	cytoplasm	no
AH14G22540.1	654	217	5.84	24825.5	-0.328	chloroplast	no
AH15G30630.1	666	221	8.46	24304.11	-0.049	chloroplast	no
AH15G12630.1	465	154	9.34	17456.4	-0.199	cytoplasm	no
AH16G00200.1	1029	342	5.16	37633.85	-0.170	chloroplast	no
AH16G00200.2	900	299	5.68	33312.8	-0.284	chloroplast	no
AH16G03480.1	588	195	8.83	22544.06	-0.320	nuclear	no
AH16G19250.1	390	129	5.82	14610.25	-0.509	nuclear	no
AH16G28020.1	870	289	9.78	32439.38	-0.438	chloroplast	no
AH17G22190.1	492	163	9.06	18918.79	-0.237	chloroplast	no
AH17G15550.1	486	161	6.88	17598.11	-0.066	chloroplast	no
AH18G14970.1	555	184	9.47	19920.94	-0.084	chloroplast	no

AH18G11510.1	375	124	6.65	14044.11	-0.279	cytoplasm	no
AH19G34940.1	531	176	9.33	19568.47	-0.144	chloroplast	no
AH19G37430.1	531	176	8.21	19558.48	-0.117	chloroplast	no
AH19G31680.1	642	213	8.27	24319.08	-0.147	chloroplast	no
AH20G02130.1	369	122	4.53	13941.99	-0.046	chloroplast	no
AH20G20080.2	546	181	6.97	20742.76	-0.287	chloroplast	no
AH20G20080.1	549	182	6.97	20813.84	-0.275	chloroplast	no
AH03G41730.1	399	132	9.32	15091.63	-0.287	chloroplast	no
AH03G19080.1	543	180	8.63	19546.49	-0.068	chloroplast	no
AH03G47110.1	555	184	9.36	20448.4	-0.113	mitochondria	no
AH03G47110.2	504	167	9.79	18479.13	-0.191	mitochondria	no
AH04G22870.1	801	266	5.54	30537.88	-0.350	cytoplasm	no
AH04G21760.1	321	106	6.95	11756.42	-0.071	nuclear	no
AH04G19690.1	654	217	5.84	24882.5	-0.375	cytoplasm	no
AH04G27510.1	564	187	9.30	20564.96	-0.102	chloroplast	no
AH04G29400.1	405	134	5.93	14707.8	-0.210	cytoplasm	no
AH05G24810.1	666	221	8.46	24334.14	-0.067	chloroplast	no
AH05G10280.1	396	131	6.29	14962.33	-0.093	cytoplasm	no
AH05G10310.1	390	129	8.28	14653.99	-0.148	chloroplast	no
AH06G22630.1	864	287	9.81	32244.21	-0.444	chloroplast or nuclearno	
AH06G13580.1	906	301	5.81	33612.17	-0.270	chloroplast	no
AH07G21680.1	486	161	6.41	17581.08	-0.051	chloroplast	no
AH08G21540.1	555	184	9.61	19854.84	-0.065	chloroplast	no
AH08G03630.1	411	136	5.91	15568.87	-0.307	chloroplast	no
AH08G00920.1	351	116	5.38	12769.83	0.081	cytoplasm	no
AH08G07520.1	594	197	6.32	22301.66	-0.111	chloroplast or nuclearno	
AH08G19760.1	375	124	6.36	14044.07	-0.276	cytoplasm	no
AH08G03590.1	630	209	8.35	24049.71	-0.324	chloroplast	no
AH08G30720.1	684	227	9.38	25181.5	-0.076	chloroplast	no
AH08G30720.2	669	222	9.35	24673.22	0.212	chloroplast	no
AH09G34870.1	549	182	8.35	20889.09	-0.251	chloroplast	no
AH09G32840.1	531	176	9.14	19527.42	-0.113	chloroplast	no
AH09G30770.1	531	176	8.21	19562.51	-0.063	chloroplast	no
AH09G01610.1	354	117	4.90	13349.18	-0.317	extracellular	no
AH00G02780.1	387	128	5.92	14537.29	-0.469	cytoplasm	no
AH02G05760.1	429	142	4.80	15895.02	-0.227	nuclear	no
AH03G18180.1	381	126	5.36	14335.40	-0.232	chloroplast	no
AH06G12710.1	345	114	6.11	12713.77	-0.091	cytoplasm	no
AH13G46700.2	1089	362	5.90	40082.83	-0.338	cytoplasm	no
AH15G12640.1	396	131	6.82	14969.32	-0.077	chloroplast	no

Table 2 Suppl. Primers used in this study

Primer name	Primer sequence (5'-3')	Product size [bp]	Purpose
5390.3-F	TGTGGATACACTATGTGGTCGAT	89	qRT primers for
5390.3-R	GGAGTAAAGCGAAAAGCAGCA		AH07G25390.3
5390.1-F	TGGATATTCAAGAAAACCCAACCG	100	qRT primers for
5390.1-R	ACGATTTCCTTCACTCGGCT		AH07G25390.1
9420.1-F	AGAGGCACAAGTCACCTATGAG	92	qRT primers for
9420.1-R	TGAACTGGTAGGAACTGCGAG		AH07G19420.1
9360.1-F	GGAAGCAACCATCAAAAAGCCA	75	qRT primers for
9360.1-R	AAGCAGATCTTCGGGCATCA		AH10G09360.1
7150.1-F	TCCAACCTAAAAGCAACAATAGGCT	84	qRT primers for
7150.1-R	TCTGCTGTCCTTTGTTGTTGC		AH08G07150.1
8800.1-F	ACCAGTTGCTCTACCCACTC	93	qRT primers for
8800.1-R	CCACCTCGCACGATGCT		AH08G18800.1
2630.1-F	TTGCTGCCAACAAGAACTCAA	100	qRT primers for
2630.1-R	GAGGGTAAACGGAGGGGATTT		AH06G22630.1
3550.1-F	CCAACAAAGAACTCACCTTCA	98	qRT primers for
3550.1-R	GAATGAGGGTAAAGGGAGGGG		AH01G33550.1
0720.1-F	GAAACGGGTTTATGCAGTTCCA	80	qRT primers for
0720.1-R	TTCCACCACTGCATCGATCT		AH08G30720.1
3480.1-F	GACTCTAGTGAAGCGTGGCA	93	qRT primers for
3480.1-R	TTGTGGCCTCCAATCACCTC		AH16G03480.1
4870.1-F	ATTGAAAAGTTGGCAGCGG	88	qRT primers for
4870.1-R	CCGAGCAACAAGTTTATGCGA		AH09G34870.1
0310.1-F	AACCGTCACTGACTCTGTTTCT	99	qRT primers for
0310.1-R	TGCTGGTGGTGATGCTACTTA		AH01G20310.1
2780.1-F	GCAGCAAGGAAGGGTTACCT	99	qRT primers for
2780.1-R	TGGAGGATTTGATGTTGAAGAGGA		AH00G02780.1
9690.1-F	AGCTGATTCTAGGATTTCCTATGT	94	qRT primers for
9690.1-R	CAAAGGCTTAACTTTTGTGTCACC		AH04G19690.1
3590.1-F	AGAAACCAGCTGATTCTGGAATTTT	75	qRT primers for
3590.1-R	GACAAAGTTTGCTATGATTGTGCC		AH08G03590.1
5550.2-F	CCAACAACCACAACCCCTA	96	qRT primers for
5550.2-R	GTTGAAGGAACGGGCGAATC		AH10G15550.2
1560.1-F	ATGTTTCCCCACTATTCGGG	83	qRT primers for
1560.1-R	GTAAGGGTTCTGGGCTTCAGT		AH13G21560.1
1540.1-F	CGCCGTGTCGAGAATTTCC	87	qRT primers for
1540.1-R	ATGGGATCCACTTGGACGG		AH08G21540.1
0320.1-F	CCCTACCTTTTCAACAAGAACCAA	94	qRT primers for

0320.1-R	TCTGACGTATTTACCCTTGGGAG		AH10G30320.1
1510.1-F	CAAGAATCATGGCAACACCACA	82	qRT primers for
1510.1-R	TGCACCAAAAAGCAGAGAAGTG		AH18G11510.1
4240.1-F	GAAACCGCAGAGGAGCAGA	91	qRT primers for
4240.1-R	AGTTCTGGGTAGAGGCCTGA		AH10G04240.1
2130.1-F	TGGAAACTGCAGAGGAGCAG	98	qRT primers for
2130.1-R	AGGGGAGTTCTGGGTAGAGG		AH20G02130.1
7430.1-F	GCAAACCCTAGGCTAATCGAAG	99	qRT primers for
7430.1-R	ACCTTCTCTTCTGCTTTCTGGA		AH19G37430.1
1730.1-F	GTTCAAAGAGCACCAAAGCCAT	98	qRT primers for
1730.1-R	TTGGAAGCATCAAAGTGAGCC		AH03G41730.1
2630.1-F	TGTTTAGCATCCAAACTTGCATAGA	94	qRT primers for
2630.1-R	TCCATGTTTGATGCATTAGCTCC		AH15G12630.1
9400.1-F	GATTTCTCAGCTTCGTGGTGC	97	qRT primers for
9400.1-R	CGAGCTTGATGAACTCGACG		AH04G29400.1
0280.1-F	TCCTTACCTTCCATTCCACTGC	106	qRT primers for
0280.1-R	CAAGGTGCACACCATGTAGC		AH05G10280.1
2870.1-F	GAAACTGGGCTGACGAAGGA	87	qRT primers for
2870.1-R	GAGGAAATACCACCAAGTTCTGC		AH04G22870.1
0920.1-F	CGTGGATGAGTGGAAGGATCA	81	qRT primers for
0920.1-R	CACCAAGAAGCTGTGAAATCCA		AH08G00920.1
5760.1-F	TGGTTTCTGGGAATGTGCAAC	79	qRT primers for
5760.1-R	TTGTGATCCTTCGATGATTCTTGC		AH02G05760.1
2710.1-F	GCAGAAGGACAAGTCATCCCT	98	qRT primers for
2710.1-R	GTGAAATCCACCGCAACCAG		AH06G12710.1
7110.1-F	TCCTTCCGATGTTGTCCTTGT	85	qRT primers for
7110.1-R	GATGGCATGCAACGAGTTATCTT		AH03G47110.1
7510.1-F	GGCATCTACCCTCACCTTAACT	91	qRT primers for
7510.1-R	TTCCAAGCTGCATCTCACACT		AH04G27510.1
2840.1-F	TCGAATTGGAAGCTTCTCCTCT	96	qRT primers for
2840.1-R	AGCAACTCGTCAAATGAAGAAAATG		AH09G32840.1
9070.1-F	GCCTTCCTGAATTACCGAACAAA	73	qRT primers for
9070.1-R	AGACCCCAAGCAGCTAAAATAGA		AH11G09070.1
UBQ10R-F	CGCACACTCGCTGACTACAAC	64	qRT primers for <i>UBQ10R</i>
UBQ10R-R	CACGGAGACGGAGGACAAGG		
