

**Table S1.** Amino acid sequence of possible building blocks of WPNFs identified by LC-MS/MS.

Amino Acid Sequence	Molecular Weight (Da)		Source	Score
	Measured Values	Deviation		
-.LIVTQTM*KGLD.I	1234.67116	-0.00067	$\beta$ -lg	23.68
-.LIVTQTM*KGLDIQK.V	1603.90875	-0.00271	$\beta$ -lg	48.44
-.LIVTQTM*KGLDIQKVAGTWYSLAMAASD.I	3027.55295	0.00127	$\beta$ -lg	34.04
-.LIVTQTMK.G	933.54376	0.00228	$\beta$ -lg	43.8
-.LIVTQTMKG.L	990.56523	-0.00122	$\beta$ -lg	42.09
-.LIVTQTMKGL.D	1103.64929	0.00231	$\beta$ -lg	32.7
-.LIVTQTMKGLD.I	1218.67624	0.00491	$\beta$ -lg	36.5
-.LIVTQTMKGLDIQ.K	1459.81888	0.00099	$\beta$ -lg	44.85
-.LIVTQTMKGLDIQK.V	1587.91383	0.01431	$\beta$ -lg	30.63
-.LIVTQTMKGLDIQKVAG.T	1815.04083	0.00177	$\beta$ -lg	23.21
-.LIVTQTMKGLDIQKVAGTWYSLAMAASD.I	3027.55295	0.00394	$\beta$ -lg	48.25
-.LIVTQTMKGLDIQKVAGTWYSLAMAAS.D	2896.53108	-0.00379	$\beta$ -lg	29.61
-.LIVTQTMKGLDIQKVAGTWYSLAMAASD.I	3011.55803	0.00706	$\beta$ -lg	54.69
-.LIVTQTMKGLDIQKVAGTWYSLAMAASDISLLD.A	3552.86918	0.00347	$\beta$ -lg	22.9
A.LKALPMHIR.L	1078.65535	0.0009	$\beta$ -lg	42.49
A.LNENKVLVLD.T	1156.65719	0.00227	$\beta$ -lg	30.6
A.LPMHIR.L.S	879.52328	0.0014	$\beta$ -lg	28.75
A.MAASDISLLD.A	1035.50267	-0.0016	$\beta$ -lg	22.04
A.PLRVYVEELKPTPEG.D	1726.93739	0.00934	$\beta$ -lg	28.6
A.PLRVYVEELKPTPEGD.L	1841.96434	-0.00003	$\beta$ -lg	25.18
A.QSAPLRVYVEELKPTPEGD.L	2128.09205	-0.00139	$\beta$ -lg	28.28
C.LVRTPEVDD.E	1043.53677	-0.00147	$\beta$ -lg	29.38
C.LVRTPEVDDEALEKFD.K	1875.93344	-0.00521	$\beta$ -lg	26.84
D.ALNENKVLVL.D	1112.66736	0.00427	$\beta$ -lg	22.7
D.ALNENKVLVLD.T	1227.6943	0.00436	$\beta$ -lg	29.57
D.ALNENKVLVLDT.D	1328.74199	0.01669	$\beta$ -lg	38.56
D.ALNENKVLVLDTD.Y	1443.76893	-0.00153	$\beta$ -lg	36.2
D.ALNENKVLVLDTDYK.K	1734.92721	0.01131	$\beta$ -lg	35.08
D.ALNENKVLVLDTDYKK.Y	1863.02217	0.00044	$\beta$ -lg	39.05
D.ALNENKVLVLDTDYKKY.L	2026.08549	0.00581	$\beta$ -lg	44.98
D.AQSAPLRVY.V	1004.55234	0.00315	$\beta$ -lg	24.22
D.AQSAPLRVYV.E	1103.62076	0.00263	$\beta$ -lg	25.48
D.AQSAPLRVYVE.E	1232.66334	0.00022	$\beta$ -lg	42.37
D.AQSAPLRVYVEEL.K	1474.78999	-0.00093	$\beta$ -lg	25.91
D.AQSAPLRVYVEELK.P	1602.88495	-0.00022	$\beta$ -lg	39.1
D.AQSAPLRVYVEELKPT.P	1800.9854	0.00187	$\beta$ -lg	27.14
D.AQSAPLRVYVEELKPTPE.G	2027.08075	-0.01138	$\beta$ -lg	23.55
D.AQSAPLRVYVEELKPTPEG.D	2084.10222	-0.00163	$\beta$ -lg	33.3
D.AQSAPLRVYVEELKPTPEGD.L	2199.12916	-0.00315	$\beta$ -lg	31.1
D.AQSAPLRVYVEELKPTPEGDL.E	2312.21322	-0.00915	$\beta$ -lg	26.74
D.DEALEKFD.K	966.44145	-0.00019	$\beta$ -lg	21.27
D.DEALEKFDK.A	1094.53641	-0.00032	$\beta$ -lg	21.79
D.DEALEKFDK.A.L	1165.57351	0.00259	$\beta$ -lg	22.04
D.DEALEKFDKALK.A	1406.75253	0.00023	$\beta$ -lg	35.89
D.DEALEKFDKALK.A.L	1477.78964	0.0031	$\beta$ -lg	33.36
D.DEALEKFDKALKAL.P	1590.8737	-0.00276	$\beta$ -lg	21.36
D.DEALEKFDKALKALPM*HIRLSFNPT.Q	2900.53383	0.04238	$\beta$ -lg	28.26

D.DEALEKFDKALKALPMH.I	1956.02586	-0.00433	$\beta$ -lg	43.56
D.DEALEKFDKALKALPMHIR.L	2225.21103	-0.00715	$\beta$ -lg	58.27
D.DEALEKFDKALKALPMHIRLS.S	2338.29509	-0.00644	$\beta$ -lg	34.57
D.DEALEKFDKALKALPMHIRLS.F	2425.32712	-0.00254	$\beta$ -lg	47.35
D.EALEKFDKAL.K	1163.63063	0.00314	$\beta$ -lg	31.4
D.EALEKFDKALK.A	1291.72558	-0.00098	$\beta$ -lg	27.63
D.EALEKFDKALKALPMH.I	1840.99891	0.00271	$\beta$ -lg	27.36
D.EALEKFDKALKALPMHIR.L	2110.18408	0.00313	$\beta$ -lg	31.9
D.EALEKFDKALKALPMHIRLS.S	2223.26814	0.00089	$\beta$ -lg	64.84
D.IQKVAGTWYSLAMAASD.I	1811.89963	0.0023	$\beta$ -lg	23.69
D.IQKVAGTWYSLAMAASDISLLD.A	2353.21078	0.00268	$\beta$ -lg	35.06
D.ISLLDAQ.S	759.42468	0.00248	$\beta$ -lg	20.05
D.ISLLDAQSAPLR.V	1283.73175	0.00022	$\beta$ -lg	80.21
D.ISLLDAQSAPLRVY.V	1545.86349	0.00337	$\beta$ -lg	87.02
D.ISLLDAQSAPLRVYVE.E	1773.9745	-0.00222	$\beta$ -lg	30.69
D.KALKALPMH.I	1008.60225	0.00042	$\beta$ -lg	57.07
D.KALKALPMHIR.L	1277.78741	-0.00092	$\beta$ -lg	53.1
D.KALKALPMHIRLS.S	1390.87147	-0.00152	$\beta$ -lg	44.33
D.LEILLQK.W	856.5502	0.00187	$\beta$ -lg	20.03
F.KIDALNENKVLVLD.T	1583.90027	-0.00188	$\beta$ -lg	25.78
K.ALKALPMHIR.L	1149.69246	0.00041	$\beta$ -lg	38.41
K.ALPMHIR.L	837.47633	-0.00085	$\beta$ -lg	22.83
K.IIAEKTIPAVFKID.A	1686.01999	-0.00294	$\beta$ -lg	21.66
K.IPAVFKID.A	902.53457	0.00027	$\beta$ -lg	23.61
K.KIIAEKTIPAVFKID.A	1814.11494	0.00071	$\beta$ -lg	25.44
L.DAQSAPLRVYVEELKPTPEGD.L	2314.15611	-0.00178	$\beta$ -lg	28.13
L.IVTQTMK.G	820.4597	0.00057	$\beta$ -lg	41.23
L.IVTQTMKG.L	877.48117	0.00044	$\beta$ -lg	27.12
L.KALPMHIR.L	965.57129	-0.00008	$\beta$ -lg	41.58
L.RVYVEELKPTPEGD.L	1631.82751	-0.00261	$\beta$ -lg	26.34
N.KVLVLDTD.Y	902.51933	0.00031	$\beta$ -lg	28.18
Q.KKIIAEKTIPAVFKID.A	1942.2099	0.0002	$\beta$ -lg	20.52
Q.SAPLRVYVEELKPTPEGD.L	2000.03348	0.00043	$\beta$ -lg	20.73
Q.TMKGLDIQKVAGTWYSLAMAASD.I	2457.21522	0.00086	$\beta$ -lg	21.55
R.LSFNPTQLEEQCHI.-	1715.80574	-0.00611	$\beta$ -lg	53.67
R.TPEVDDEALEK.F	1245.58449	0.00244	$\beta$ -lg	33.89
R.VYVEELKPTPEGD.L	1475.72641	0.00168	$\beta$ -lg	62.44
S.APLRVYVEELKPTPEGD.L	1913.00145	-0.0031	$\beta$ -lg	40.68
D.KFLDDD.L	752.34611	0.00031	$\alpha$ -la	27.97
D.KFLDDD.LTD.D	1081.5048	0.00034	$\alpha$ -la	33.02
D.KFLDDD.LTDD.I	1196.53175	-0.00045	$\alpha$ -la	31.7
D.TQAIVQ.N	659.37227	0.00117	$\alpha$ -la	30.57

“-” refers the end of the protein and there are no any other amino acids. “.” refers to the restriction site of Trypsin. Mass spectrometry only detects the peptide sequence between these two points. The amino acids on both sides are next to the peptide that matches the database. Amino acid “\*” refers to amino acids that may be modified.