

Supporting information

Efficient Mass Spectral Analysis of Active Transporters Overexpressed in *Escherichia coli*

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Table S1. Summary of LC-MS data for trypsin-digested peptides from VGLUT2.

N.D. = not detected; CAM = carbamidomethyl cysteine.

Residues	Observed mass (Da)	Calculated mass (Da)	Δ Mass (Da)	S/N	Intensity	Missed cleavage	Modification
1-5	N.D.	593.297					
6-7	N.D.	303.178					
6-13	882.583	882.553	0.030	64.2	24281.45	1	
8-13	598.412	598.393	0.019	31.1	12832.66		
8-17	1025.58	1025.636	-0.056	74.8	71905.81	1	
14-17	446.105	446.261	-0.156	2.1	769.96		
14-22	963.49	963.526	-0.036	192.4	73330.49		
18-22	N.D.	536.283					
18-29	1353.724	1353.728	-0.004	14.6	11111.50	1	
23-29	836.486	836.463	0.023	189.5	132534.70		
23-33	1305.794	1305.753	0.041	10.1	15142.33	1	
30-33	488.338	488.308	0.030	34.4	9383.55		
35-38	N.D.	532.248					
39-48	1134.553	1134.553	0.000				
39-55	1927.058	1926.991	0.067	141.7	139114.24	1	
49-55	N.D.	811.457					
56-69	1694.825	1694.782	0.043	127.4	99128.70	1	3CAM
57-69	1566.715	1566.687	0.028	142.5	112260.07		3CAM
57-70	1722.824	1722.788	0.036	5.1	5656.55	1	3CAM
70-88	2174.126	2174.162	-0.036	3.5	3638.70	1	1CAM
71-88	2018.015	2018.061	-0.046	7.3	6980.01		1CAM
89-106	2013.103	2013.001	0.102	409.8	163072.95		1CAM
89-109	2255.18	2255.139	0.041	3.3	2422.46	1	1CAM
107-112	601.18	601.404	-0.224	2.3	720.60	1	
110-112	N.D.	359.266					
117-148	3659.714	3659.779	-0.065	21.6	1878.39		
149-153	544.223	544.321	-0.098	22.3	1844.60		
149-174	2684.604	2684.529	0.075	330.7	52680.87	1	
154-174	2159.312	2159.226	0.086	837.0	187261.20		
175-184	1249.675	1249.652	0.023	342.3	226827.75		1CAM
175-204	3458.657	3458.787	-0.130	43.9	7349.15	1	2CAM
185-204	2228.169	2228.154	0.015	25.8	9505.11		1CAM
185-211	3077.607	3077.604	0.004	3.2	1840.83	1	1CAM

205-211	868.519	868.468	0.051	181.0	170963.57		
205-213	1111.671	1111.601	0.070	8.5	9323.59	1	
214-270	N.D.	6343.081					1CAM
271-279	1097.579	1097.523	0.056	486.8	201020.15		
271-280	1253.669	1253.624	0.045	165.7	64060.75	1	
280-298	2110.077	2110.049	0.028	21.1	8813.57	1	
281-298	1953.968	1953.948	0.020	197.0	90629.61		
299-304	834.461	834.463	-0.002	5.2	5530.11	1	
301-304	559.307	559.299	0.008	18.3	5286.88		
305-322	2164.097	2164.109	-0.012	126.9	61716.67	1	1CAM
306-322	2036.064	2036.014	0.050	602.6	187685.44		1CAM
323-347	3014.473	3014.523	-0.050	9.1	2721.27		
348-374	2847.652	2847.599	0.053	188.1	18141.88		
375-385	1233.611	1233.717	-0.106	8.1	5961.11	1	
377-385	1018.635	1018.590	0.045	239.9	187642.56		
377-386	1146.62	1146.685	-0.065	2.5	2373.98	1	
387-409	2526.29	2526.231	0.059	23.9	10542.50		1CAM
410-440	3188.758	3188.726	0.032	91.8	7009.57		
441-469	2940.632	2940.507	0.125	3.0	1992.01		1CAM
441-471	3182.416	3182.645	-0.229	5.5	1745.66	1	1CAM
470-473	504.131	504.289	-0.158	4.1	1183.72	1	
472-502	3563.802	3563.837	-0.035	304.2	22268.89	1	
474-502	N.D.	3320.704					
503-515	1545.717	1545.671	0.046	107.1	99004.57		
516-542	3162.384	3162.385	-0.001	154.1	31630.33		1CAM
543-560	1967.888	1967.852	0.036	27.7	25096.99		
561-576	1921.906	1921.882	0.024	33.3	27231.97	1	
562-576	1793.813	1793.787	0.026	33.5	30221.11		
579-582	N.D.	499.168					

Table S2. Summary of LC-MS data for trypsin-digested peptides from VEAT.

N.D. = not detected; CAM = carbamidomethyl cysteine.

Residues	Observed mass (Da)	Calculated mass (Da)	Δ Mass (Da)	S/N	Intensity	Missed cleavage	Modification
1-2	N.D.	306.160					
3-6	N.D.	498.340					
7-27	2084.966	2084.937	0.029	1692.4	418563.36		
7-39	3415.535	3415.513	0.022	4.0	310.44	1	2CAM
28-39	1349.639	1349.594	0.045	699.9	233462.00		2CAM
40-57	2151.159	2151.147	0.013	614.7	82869.25		1CAM
58-78	2277.135	2277.140	-0.005	32.5	13627.60		
79-81	N.D.	335.193					
79-91	1457.742	1457.706	0.036	104.5	52011.74	1	1CAM
82-91	1141.570	1141.531	0.039	216.5	84630.90		1CAM
82-99	2052.026	2051.983	0.043	7.8	1422.64	1	1CAM
92-99	929.482	929.471	0.011	149.7	63691.16		
92-100	1057.602	1057.566	0.036	6.4	2878.28	1	
100-102	438.143	438.272	-0.129	3.1	1109.59	1	
101-102	N.D.	310.177					
103-132	3395.709	3395.674	0.035	12.3	1431.91		
133-136	N.D.	360.225					
133-168	3623.099	3623.192	-0.093	45.5	1534.85	1	
137-168	3282.001	3281.986	0.015	363.7	20315.79		
169-195	N.D.	2940.418					
198-256	N.D.	6859.551					1CAM
257-263	877.450	877.442	0.008	970.2	367409.70		
257-271	1796.804	1796.943	-0.139	256.2	93948.09	1	
264-271	938.527	938.520	0.007	456.2	173112.25		
264-278	1723.766	1723.923	-0.157	26.2	10910.50	1	
272-278	804.433	804.422	0.012	1358.0	422057.40		
272-287	1783.918	1784.007	-0.089	70.6	26805.21	1	
279-287	998.619	998.604	0.015	816.8	226856.09		
288-317	N.D.	3574.885					
318-321	530.225	530.330	-0.105	311.8	64513.88		
322-353	N.D.	3813.769					3CAM
354-364	1336.742	1336.738	0.004	8.2	4067.38	1	
356-364	1109.586	1109.574	0.012	993.7	376627.82		

356-365	N.D.	1265.675				
366-445	N.D.	8093.261				1CAM
446-454	1016.494	1016.538	-0.044	1423.3	451317.24	
455-479	2864.363	2864.485	-0.122	10.2	7439.55	1CAM
480-494	1715.813	1715.800	0.013	893.0	440914.97	

Table S3. Summary of LC-MS data for trypsin-digested peptides from VACHT.

N.D. = not detected; CAM = carbamidomethyl cysteine.

Residues	Observed mass (Da)	Calculated mass (Da)	Δ Mass (Da)	S/N	Intensity	Missed cleavage	Modification
1-11	N.D.	1146.521					
12-16	461.285	461.272	0.013	27.9	3593.47		
12-29	1783.023	1782.971	0.052	51.4	11204.62	1	
17-29	1340.721	1340.717	0.004	2243.5	539165.55		
17-30	1496.805	1496.819	-0.014	12.4	3037.58	1	
31-32	N.D.	303.178					
34-65	N.D.	3696.053					1CAM
66-73	730.357	730.348	0.009	1194.8	405339.99		
74-112	N.D.	3964.972					
74-114	4218.087	4218.126	-0.039	286.4	9300.88	1	
115-123	1067.498	1067.490	0.008	1160.1	234964.85		
115-131	1882.981	1882.980	0.001	6.5	1091.51	1	
124-131	834.507	834.509	-0.002	365.9	30526.38		
124-148	2681.614	2681.576	0.038	8.8	895.59	1	
132-148	1866.131	1866.085	0.046	3149.1	441900.70		
149-182	N.D.	3699.885					
183-203	2053.03	2053.028	0.002	6.2	1307.64		
183-210	2953.416	2953.425	-0.009	479.6	49138.81	1	
204-210	919.427	919.416	0.011	2423.1	483972.87		
204-212	1162.528	1162.549	-0.021	5.9	1472.39	1	
211-241	3155.791	3155.730	0.061	10.5	528.85	1	
213-241	2912.772	2912.597	0.175	92.7	4774.19		
243-264	N.D.	2283.409					
243-271	2983.815	2983.775	0.040	768.4	32664.21	1	
265-271	N.D.	719.384					
272-284	1401.576	1401.808	-0.232	13.0	4000.95	1	
274-284	1174.675	1174.670	0.005	3190.1	560471.60		
285-317	N.D.	3633.914					1CAM
318-347	N.D.	3399.685					
348-351	430.269	430.278	-0.009	353.8	120237.29		
352-378	N.D.	2972.528					2CAM
379-412	3647.991	3647.995	-0.004	8.6	326.10		2CAM
413-470	N.D.	6111.319					

471-477	772.457	772.468	-0.011	1359.0	212894.53	
478-482	634.385	634.327	0.058	7.4	1234.86	1
480-482	N.D.	391.194				
483-498	1799.986	1799.918	0.068	233.9	96725.51	
483-500	2069.172	2069.103	0.069	4.9	3235.21	1
499-512	1595.749	1595.825	-0.076	12.0	2107.84	1
501-502	N.D.	304.162				
501-512	1326.660	1326.640	0.020	3800.2	721682.73	1
503-512	N.D.	1041.497				
513-531	2387.941	2387.940	0.001	349.2	48989.23	1CAM

Table S4. Summary of MS data for chymotrypsin and trypsin+Asp-N digested peptides from VEAT.

One and two missed cleavages were allowed for chymotrypsin and trypsin+Asp-N, respectively.

Residues	Observed mass (Da)	Calculated mass (Da)	Δ Mass (Da)	S/N	Intensity	Enzyme	Miss cleavage
3-6	498.342	498.340	0.002	41.7	6581.39	Trypsin+Asp-N	
6-22	1746.811	1746.741	0.070	56.7	24457.62	Chymotrypsin	
18-27	1026.556	1026.557	-0.001	119.7	44753.16	Trypsin+Asp-N	
18-34	1722.841	1722.841	-0.001	2.4	2058.31	Trypsin+Asp-N	1
23-40	2007.033	2006.954	0.079	3.3	2963.59	Chymotrypsin	1
28-34	715.405	715.406	0.000	11.3	2787.65	Trypsin+Asp-N	
40-57	2151.137	2151.138	0.000	39.5	19441.26	Trypsin+Asp-N	1
43-47	534.304	534.329	-0.025	2.2	970.39	Chymotrypsin	1
48-53	742.339	742.359	-0.020	4.8	3497.15	Chymotrypsin	2
51-56	683.441	683.376	0.065	7.4	4465.57	Chymotrypsin	2
55-60	685.458	685.436	0.022	16.8	5616.47	Chymotrypsin	1
55-64	1055.67	1055.657	0.013	2.2	3346.85	Chymotrypsin	2
57-60	501.336	501.314	0.022	67.7	18562.94	Chymotrypsin	
58-65	814.478	814.478	-0.001	3.2	1114.61	Trypsin+Asp-N	
82-91	1141.565	1141.566	-0.001	61.1	26554.38	Trypsin+Asp-N	1
83-99	1922.858	1922.859	-0.001	56.1	31846.96	Trypsin+Asp-N	1
92-99	929.463	929.464	0.000	19.5	6616.46	Trypsin+Asp-N	
103-132	3395.668	3395.669	-0.001	21.5	2921.70	Trypsin+Asp-N	1
104-132	3209.590	3209.591	-0.001	25.0	4436.58	Trypsin+Asp-N	
113-116	457.306	457.208	0.098	30.8	13376.42	Chymotrypsin	1
113-117	620.355	620.272	0.084	4.2	1604.2	Chymotrypsin	2
137-168	3281.983	3281.984	-0.001	44.9	6874.00	Trypsin+Asp-N	1
139-144	585.383	585.397	-0.014	2.3	1560.97	Chymotrypsin	2
152-159	847.467	847.456	0.011	2.4	1405.12	Chymotrypsin	2
158-168	1183.745	1183.746	-0.001	886.2	397965.52	Trypsin+Asp-N	
168-179	1248.691	1248.658	0.033	247.8	109217.06	Chymotrypsin	2
169-195	2940.375	2940.376	0.000	2.5	2277.45	Trypsin+Asp-N	
194-203	1209.703	1209.684	0.019	27.5	23172.45	Chymotrypsin	2
204-214	1029.568	1029.594	-0.026	7.4	6958.48	Chymotrypsin	1
215-223	1085.61	1085.534	0.076	2.9	3873.38	Chymotrypsin	2
217-222	712.388	712.333	0.055	2.2	1838.3	Chymotrypsin	
217-223	875.421	875.397	0.024	7.2	5710.26	Chymotrypsin	1

247-261	1727.920	1727.860	0.060	4.2	3178.71	Chymotrypsin	
250-256	827.388	827.389	-0.001	7.5	2302.77	Trypsin+Asp-N	
257-263	877.437	877.438	-0.001	7.1	2405.71	Trypsin+Asp-N	
257-271	1796.845	1796.846	-0.001	24.2	14597.31	Trypsin+Asp-N	1
262-265	568.182	568.261	-0.079	30.8	14564.27	Chymotrypsin	
264-271	938.517	938.517	0.000	5.6	2100.27	Trypsin+Asp-N	
272-278	804.416	804.422	-0.006	8.0	2345.86	Trypsin+Asp-N	
272-287	1783.872	1783.873	-0.001	7.7	5144.87	Trypsin+Asp-N	1
279-287	998.602	998.603	0.000	18.5	6932.39	Trypsin+Asp-N	
290-299	1152.666	1152.656	0.010	2.8	4319.34	Chymotrypsin	2
292-299	942.554	942.520	0.034	2.5	3105.46	Chymotrypsin	1
300-303	569.313	569.235	0.078	3.9	1397.76	Chymotrypsin	1
316-329	1724.951	1724.879	0.072	4.4	4898.03	Chymotrypsin	2
318-321	530.328	530.329	0.000	36.1	5830.33	Trypsin+Asp-N	
320-329	1110.566	1110.533	0.033	2.7	4203.89	Chymotrypsin	1
322-340	2262.079	2262.069	0.010	2.6	2008.07	Trypsin+Asp-N	1
331-335	550.316	550.287	0.029	196.8	54898.12	Chymotrypsin	1
345-349	506.203	506.203	0.000	2.9	620.09	Trypsin+Asp-N	
345-352	897.465	897.377	0.088	4.1	3842.27	Chymotrypsin	1
345-353	1053.558	1053.559	-0.001	2.3	1226.91	Trypsin+Asp-N	1
350-353	566.298	566.294	0.005	35.4	6137.04	Trypsin+Asp-N	
352-356	701.479	701.446	0.033	8.6	5201.64	Chymotrypsin	1
352-358	962.511	962.557	-0.046	79.7	31917.42	Chymotrypsin	2
353-356	588.37	588.362	0.008	10.7	5547.13	Chymotrypsin	
354-364	1336.662	1336.663	-0.001	25.4	13374.17	Trypsin+Asp-N	1
356-364	1109.577	1109.578	-0.001	500.5	207837.03	Trypsin+Asp-N	
370-379	989.585	989.549	0.036	19.9	15808.8	Chymotrypsin	1
379-384	577.408	577.334	0.074	18.5	6192.98	Chymotrypsin	1
385-395	1215.665	1215.571	0.094	15.3	13663.09	Chymotrypsin	2
390-396	720.365	720.429	-0.064	2.7	1433.06	Chymotrypsin	2
396-402	748.424	748.445	-0.021	7.5	2927.85	Chymotrypsin	1
403-415	1293.668	1293.622	0.046	2	3595.92	Chymotrypsin	2
416-445	3016.384	3016.643	-0.259	2.7	1598.94	Trypsin+Asp-N	
427-432	652.348	652.330	0.018	2.7	1887.43	Chymotrypsin	
427-447	2103.109	2103.152	-0.043	2.5	2206.29	Chymotrypsin	1
448-456	1131.628	1131.543	0.085	106.6	83873.46	Chymotrypsin	
450-454	618.319	618.319	0.000	33.6	6483.99	Trypsin+Asp-N	
457-473	1841.968	1841.962	0.006	3.3	2469.54	Chymotrypsin	2
461-488	3031.368	3031.369	-0.001	2.6	1425.99	Trypsin+Asp-N	1

480-494	1715.807	1715.807	-0.001	2.1	1879.59	Trypsin+Asp-N	1
489-494	758.345	758.345	0.000	127.8	31135.95	Trypsin+Asp-N	

Table S5. Summary of MS data for chymotrypsin and trypsin+Asp-N digested peptides from VACHT.

One and two missed cleavages were allowed for chymotrypsin and trypsin+Asp-N, respectively.

Residues	Observed mass (Da)	Calculated mass (Da)	Δ Mass (Da)	S/N	Intensity	Enzyme	Miss cleavage
12-29	1782.955	1782.971	-0.016	3.6	1002.34	trypsin+AspN	1
17-30	1496.769	1496.818	-0.049	4.3	912.77	trypsin+AspN	1
26-36	1450.774	1450.871	-0.097	4.3	7519.08	Chymotrypsin	1
33-39	811.563	811.576	-0.013	164.8	12128.42	trypsin+AspN	1
37-44	886.484	886.543	-0.059	3.0	1564.75	Chymotrypsin	1
37-45	999.537	999.627	-0.090	3.9	2553.40	Chymotrypsin	2
44-49	718.384	718.380	0.004	3.4	1327.93	Chymotrypsin	2
50-60	1308.734	1308.691	0.043	2.4	3755.08	Chymotrypsin	1
51-60	1145.608	1145.628	-0.020	6.4	5347.34	Chymotrypsin	
66-73	730.343	730.348	-0.005	91.6	7515.05	trypsin+AspN	
79-84	669.302	669.382	-0.080	3.3	1186.92	Chymotrypsin	1
85-93	891.483	891.421	0.062	3.1	1586.77	Chymotrypsin	
94-111	1673.851	1673.813	0.038	3.6	5746.45	Chymotrypsin	1
106-111	515.348	515.282	0.066	2.7	781.44	Chymotrypsin	
112-127	1859.067	1859.002	0.065	152.6	135973.82	Chymotrypsin	1
112-128	2006.145	2006.071	0.074	260.1	197216.85	Chymotrypsin	2
115-120	725.299	725.299	0.000	4.0	387.99	trypsin+AspN	
124-131	834.511	834.508	0.003	7.7	778.20	trypsin+AspN	
128-134	749.401	749.456	-0.055	1.7	905.38	Chymotrypsin	1
129-134	602.373	602.387	-0.014	18.0	4771.79	Chymotrypsin	
132-148	1866.065	1866.085	-0.020	4.2	600.16	trypsin+AspN	1
147-151	671.351	671.282	0.069	2.0	165.39	trypsin+AspN	1
152-156	556.309	556.334	-0.025	2.2	721.32	Chymotrypsin	1
157-163	736.464	736.406	0.058	1.9	907.73	Chymotrypsin	1
160-169	1071.556	1071.554	0.002	8.4	4924.09	Chymotrypsin	2
174-182	1027.533	1027.521	0.012	41.5	4937.44	trypsin+AspN	
179-187	962.505	962.542	-0.037	27.1	11644.33	Chymotrypsin	2
180-191	1177.673	1177.632	0.041	71.8	49723.98	Chymotrypsin	2
188-191	381.774	381.177	0.597	5.4	1216.79	Chymotrypsin	
202-210	1162.544	1162.549	-0.005	51.3	7025.25	trypsin+AspN	1
204-210	919.418	919.416	0.002	51.0	5364.18	trypsin+AspN	
205-214	1183.675	1183.607	0.068	3.6	1018.59	Chymotrypsin	

205-220	1741.948	1741.923	0.025	20.0	20309.87	Chymotrypsin	2
215-220	577.407	577.334	0.073	11.9	3113.74	Chymotrypsin	1
221-231	1134.614	1134.619	-0.005	17.0	11983.71	Chymotrypsin	2
224-231	787.426	787.435	-0.009	3.2	1408.75	Chymotrypsin	1
227-236	1033.543	1033.572	-0.029	4.2	3005.35	Chymotrypsin	2
236-245	1213.625	1213.636	-0.011	4.7	4489.61	Chymotrypsin	2
239-245	774.481	774.462	0.019	20.2	6732.73	Chymotrypsin	
239-246	887.487	887.546	-0.059	5.1	2304.93	Chymotrypsin	1
242-254	1431.885	1431.872	0.013	91.9	9294.25	trypsin+AspN	1
249-253	460.256	460.277	-0.021	3.2	293.39	Chymotrypsin	
255-258	431.264	431.250	0.014	2.7	725.26	Chymotrypsin	1
255-264	1026.647	1026.656	-0.009	57.5	5384.83	trypsin+AspN	
255-271	1726.997	1727.021	-0.024	13.0	2021.94	trypsin+AspN	1
267-287	2215.256	2215.260	-0.004	2.5	2905.04	Chymotrypsin	2
274-284	1174.671	1174.669	0.002	155.0	21123.73	trypsin+AspN	
277-285	989.553	989.589	-0.036	15.6	7242.97	Chymotrypsin	
291-298	713.431	713.456	-0.025	4.1	1522.91	Chymotrypsin	
299-305	818.411	818.408	0.003	4.6	1914.44	Chymotrypsin	
308-325	2103.083	2103.004	0.079	2.6	2825.74	Chymotrypsin	2
326-335	1152.602	1152.522	0.080	1.8	2365.11	Chymotrypsin	2
333-343	1198.634	1198.662	-0.028	2.6	2935.53	Chymotrypsin	2
336-344	996.615	996.588	0.027	3.2	2231.78	Chymotrypsin	2
344-348	601.398	601.403	-0.005	10.0	2764.57	Chymotrypsin	1
344-352	1062.614	1062.642	-0.028	3.1	2264.86	Chymotrypsin	2
345-348	488.333	488.319	0.014	7.0	1712.06	Chymotrypsin	
345-355	1296.693	1296.754	-0.061	211.6	51616.21	Chymotrypsin	2
349-352	480.216	480.257	-0.041	3.0	840.08	Chymotrypsin	
349-357	1141.613	1141.590	0.023	114.8	75669.03	Chymotrypsin	2
356-358	446.297	446.240	0.057	2.4	676.54	Chymotrypsin	1
379-390	1262.689	1262.681	0.008	12.6	1487.32	trypsin+AspN	1
384-387	417.286	417.271	0.015	19.2	4195.38	Chymotrypsin	
391-401	1179.554	1179.608	-0.054	12.4	7993.74	Chymotrypsin	2
397-401	518.327	518.282	0.045	13.5	3180.02	Chymotrypsin	
397-402	631.345	631.361	-0.016	26.8	7286.26	Chymotrypsin	1
398-412	1643.919	1643.937	-0.018	3.1	750.40	trypsin+AspN	1
408-417	1186.599	1186.658	-0.059	1.6	2079.13	Chymotrypsin	1
413-424	1265.631	1265.653	-0.022	58.2	6596.55	trypsin+AspN	
418-421	425.284	425.203	0.081	4.1	1014.88	Chymotrypsin	
418-428	1158.615	1158.568	0.047	7.7	5345.95	Chymotrypsin	1

422-432	1172.578	1172.583	-0.005	4.3	3569.61	Chymotrypsin	1
429-432	439.245	439.219	0.026	4.4	1092.76	Chymotrypsin	
435-451	1773.953	1773.965	-0.012	4.3	5790.96	Chymotrypsin	2
449-457	947.476	947.487	-0.011	1.8	1334.31	Chymotrypsin	2
452-460	875.468	875.466	0.002	1.5	1039.40	Chymotrypsin	2
463-467	512.285	512.344	-0.059	1.6	499.82	Chymotrypsin	1
470-485	1871.004	1871.057	-0.053	13.4	13633.85	Chymotrypsin	2
471-477	772.450	772.468	-0.018	58.1	3888.96	trypsin+AspN	
476-485	1218.678	1218.655	0.023	7.1	5257.63	Chymotrypsin	
483-486	459.193	459.281	-0.088	6.0	285.20	trypsin+AspN	
495-498	460.168	460.251	-0.083	38.9	1776.85	trypsin+AspN	
495-499	573.355	573.336	0.019	12.9	3335.28	Chymotrypsin	
500-518	2065.088	2065.021	0.067	12.1	10467.43	Chymotrypsin	
508-512	573.228	573.263	-0.035	40.5	2108.91	trypsin+AspN	
513-518	601.264	601.298	-0.034	3.2	246.23	trypsin+AspN	
521-523	423.089	423.118	-0.029	2.6	154.95	trypsin+AspN	1
523-531	1272.524	1272.517	0.007	105.1	15643.71	trypsin+AspN	1
524-531	1157.500	1157.490	0.010	12.8	1823.48	trypsin+AspN	

Table S6. Summary of MS/MS data for digested peptides from VEAT in Table S4.

Residues	Sequence	Calculated mass (Da)	Observed mass (Da)	Enzyme
18-27	DSTPLLPGAR	1026.627	1026.556	Trypsin+Asp-N
40-57	YNLAILAFCGFFVLYALR	2151.192	2151.137	Trypsin+Asp-N
92-99	VHHNHTGK	929.481	929.463	Trypsin+Asp-N
158-168	DLGVVTLVVLR	1183.700	1183.745	Trypsin+Asp-N
356-364	WNFSTISVR	1109.617	1109.577	Trypsin+Asp-N
450-454	DNTIR	618.356	618.319	Trypsin+Asp-N
489-494	DHHGHR	758.359	758.345	Trypsin+Asp-N

Table S7. Summary of MS/MS data for digested peptides from VACHT in Table S5.

Residues	Sequence	Calculated mass (Da)	Observed mass (Da)	Enzyme
66-73	GGGEGPTR	730.348	730.400	Trypsin+Asp-N
112-127	RPRYPTESEDVKIGVL	1859.002	1859.059	Chymotrypsin
112-128	RPRYPTESEDVKIGVLF	2006.071	2006.132	Chymotrypsin
202-210	DKYPEEPER	1162.549	1162.564	Trypsin+Asp-N
204-210	YPEEPER	919.416	919.441	Trypsin+Asp-N
227-236	VAPPFGGILY	1033.572	1033.536	Chymotrypsin
274-284	ANLPVGTPIHR	1174.669	1174.681	Trypsin+Asp-N
413-424	HVSVYGSVYAIA	1265.653	1265.687	Trypsin+Asp-N
508-512	DGEPR	573.263	573.291	Trypsin+Asp-N
523-531	DDYNYYYTR	1272.517	1272.520	Trypsin+Asp-N
524-531	DYNYYYTR	1157.490	1157.541	Trypsin+Asp-N