

**Supplementary Table II.** Purified wild-type CgA (10  $\mu$ M/reaction) was digested with 0.3  $\mu$ M of CTSL for 15 min at 30 °C and was analyzed by LC-MS/MS. Peptides generated in pancreastatin, (IIA) vasostatin (IIB), WE14 (IIC), GE25 (IID) and chromacin (IIE) region were listed in the following Tables.

**IIA. Peptides generated in the pancreastatin region of CgA by CTSL.**

Observed mass	Calculated mass	Residues of CgA	Sequence	C.I. %
1047.5297	1047.5428	249-258	R_KGESRSEALA_V	99.977
1125.5963	1125.6051	236-245	V_LNPHPSLGYK_E	100
1246.6415	1246.6613	290-300	E_EMAVVPQGLFR_G	98.901
1261.627	1261.6495	246-256	K_EIRKGESRSEA_L	99.719
1375.6854	1375.7039	289-300	E_EEMAVVPQGLFR_G	99.984
1445.7471	1445.7706	246-258	K_EIRKGESRSEALA_V	99.262
1504.7227	1504.7465	288-300	E_EEEMAVVPQGLFR_G	100
1762.8403	1762.8315	286-300	K_EEEEEEMAVVPQGLFR_G	99.6
3225.387	3225.5117	273-300	D_PEGKGEQEHSQKKEEEEMAVVPQGLFR_G	100

**IIB. Peptides generated in the vasostatin region of CgA.**

Observed mass	Calculated mass	Residues of CgA	Sequence	C.I. %
1071.5062	1071.5217	75-83	H_QQKKHSGFE_D	99.787
1072.6119	1072.611	41-49	E_TLRGDERIL_S	99.718
1133.5239	1133.5433	92-101	E_NQSSQAEELKE_A	100
1133.5299	1133.5433	91-100	L_ENQSSQAEELK_E	99.999
1474.7225	1474.7384	88-100	S_EVLENQSSQAEELK_E	100
1780.8912	1780.9202	69-83	G_AKERAHQQKKHSGFE_D	99.961
1837.9149	1837.9415	68-83	Q_GAKERAHQQKKHSGFE_D	100
1918.8783	1918.924	84-100	E_DELSEVLENQSSQAEELK_E	100
1948.943	1948.9736	67-83	L_QGAKERAHQQKKHSGFE_D	99.327
2047.9384	2047.9666	84-101	E_DELSEVLENQSSQAEELKE_A	100
2282.092	2282.1272	68-87	Q_GAKERAHQQKKHSGFEDELS_E	100

**IIC. Peptides generated in the WE14 region of CgA by CTSL.**

Observed mass	Calculated mass	Residues of CgA	Sequence	C.I.%
1176.6328	1176.6293	326-335	S_KMDQLAKELT_A	100
1216.6766	1216.6896	332-341	A_KELTAEKRLE_G	99.992
1263.6355	1263.6614	325-335	W_SKMDQLAKELT_A	99.999
1350.6274	1350.6437	316-325	S_KEWEDSKRWS_K	99.899
1464.7164	1464.7264	320-331	E_DSKRWSKMDQLA_K	99.79
1478.7225	1478.7386	316-326	S_KEWEDSKRWSK_M	99.988
1852.849	1852.8646	316-329	S_KEWEDSKRWSKMDQ_L	99.938
1902.9889	1903.0317	326-341	S_KMDQLAKELTAEKRLE_G	99.974
2036.9614	2036.9858	316-331	S_KEWEDSKRWSKMDQLA_K	100

**IID. Peptides generated in the GE25 region of CgA by CTSL.**

Observed mass	Calculated mass	Residues of CgA	Sequence	C.I. %
1418.6465	1418.6659	375-386	R_GWRPSSREDSLE_A	99.94
1574.7511	1574.767	374-386	R_RGWRPSSREDSLE_A	99.409
1997.9578	1998.0039	375-392	R_GWRPSSREDSLEAGLPLQ_V	99.342
2409.2031	2409.2744	374-394	R_RGWRPSSREDSLEAGLPLQVR_G	99.98

**IIIE. Peptides generated in the chromacin region of CgA.**

Observed mass	Calculated mass	Residues of CgA	Sequence	C.I. %
1674.8568	1674.8656	185-200	D_SEGLSQGLVDREKGLS_A	99.8
2175.0298	2175.02	174-194	S_QKYPGPQAEGDSEGLSQGLVD_R	100
2628.2312	2628.2537	174-198	S_QKYPGPQAEGDSEGLSQGLVDREKG_L	100
2845.3347	2845.3962	174-200	S_QKYPGPQAEGDSEGLSQGLVDREKGLS_A	100