

Supplementary Table 1

Spot	UniProtKB	Protein name	Theoretical MW (kDa)	MW (kDa) in gel	Theoretical pI	Score	Sequence coverage	Matching Peptides	Localization	Function and References
B1	LIPR1_RAT	Pancreatic lipase related protein 1	52.3	31.7	5.79	317	31%	12	Zymogen granules of the exocrine pancreas.	AB hydrolase superfamily. Lipase family. ¹
B2			52.3	34.2	5.79	95.9	20%	8		
B3			52.3	34.0	5.79	290	31%	13		
B7			52.3	34.0	5.79	337	24%	11		
B18			52.3	25.2	5.79	268	34%	10		
B20			52.3	25.6	5.79	184	26%	8		
B21			52.3	25.2	5.79	193	31%	11		
B22			52.3	20.8	5.79	208	36%	10		
B24			52.3	20.8	5.79	171	26%	8		
B32			52.3	16.3	5.79	193	28%	8		
B11	LIPP_RAT	Pancreatic triacylglycerol lipase	51.4	31.1	6.31	143	30%	11	Zymogen granules of the exocrine pancreas.	Plays an important role in fat metabolism. ²
B12			51.4	31.2	6.31	184	28%	11		
B19			51.4	22.6	6.31	300	43%	15		
B25			51.4	21.6	6.31	295	35%	12		
B34			51.4	16.1	6.31	178	26%	9		
B4	#AMYP_RAT	#Pancreatic alpha-amylase	57.1	35.8	8.34	235	38%	13	Zymogen granules of the exocrine pancreas.	Endohydrolysis of 1,4-alpha-D-glucosidic linkages in oligosaccharides and polysaccharides. ³
B5			57.1	35.8	8.34	185	41%	14		
B6			57.1	35.8	8.34	314	35%	12		
B30			57.1	19.3	8.34	328	40%	14		
B33			57.1	14.3	8.34	291	40%	14		
B8			66.9	33.6	5.31	191	15%	7	Zymogen granules of the	Catalyzes fat and vitamin absorption. Acts

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B9	CEL_RAT	#Bile salt-activated lipase	66.9	33.6	5.31	219	24%	14	exocrine pancreas. Content protein, but also strongly membrane associated.	in concert with pancreatic lipase and colipase for the complete digestion of dietary triglycerides. ⁴
B10			66.9	33.6	5.31	225	19%	11		
B15			66.9	32.7	5.31	88.2	14%	7		
B23			66.9	20.2	5.31	182	25%	12		
B37			66.9	16.9	5.31	134	15%	7		
B29			66.9	17.5	5.31	126	24%	10		
B28			66.9	18.7	5.31	174	21%	11		
B40			66.9	12.9	5.31	135	18%	7		
B42			66.9	10.9	5.31	55.8	7%	3		
B16	MCPT1_RAT	#Mast cell protease I (RMCP1) (Chymase)	28.5	27.5	9.54	130	50%	9	Cytoplasmic granules of mast cells	Major secreted protease of mast cells with suspected roles in vasoactive peptide generation, extracellular matrix degradation, and regulation of gland secretion. ⁵
B17	CELA1_RAT	Chymotrypsin-like elastase family member 1	28.9	28	8.79	60.8	15%	3	Zymogen granules of the exocrine pancreas.	Hydrolysis of proteins, including elastin. ⁶
B14	VINC_RAT	Vinculin	116.5	31	5.77	55.6	28%	17	Cytoplasm, cytoskeleton. Cell junction, adherens junction. Cell membrane; Peripheral membrane protein.	Involved in cell adhesion. May be involved in the attachment of the actin-based microfilaments to the plasma membrane. May also play important roles in cell morphology and locomotion. ⁷

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B13	TRY3_RAT	Cationic trypsin-3	26.2	25.7	7.45	186	44%	7	Zymogen granules of the exocrine pancreas. Content protein.	S1-peptidase, serine protease. ⁸
B27	RNS1B_RAT	#Ribonuclease pancreatic beta-type	16.8	16	8.63	136	51%	6	Zymogen granules of the exocrine pancreas. Content protein.	Endonuclease that catalyzes the cleavage of RNA. Acts on single stranded and double stranded RNA. ⁹
B26	PPIB_RAT	#Peptidyl-prolyl cis-trans isomerase B (PPIase)	22.7	22	9.42	55.8	49%	3	Endoplasmic reticulum lumen	PPIases accelerate the folding of proteins. Catalyzes the cis-trans isomerization of proline imidic peptide bonds in oligopeptides. ¹⁰
B31	ZG16_RAT	#Zymogen granule membrane protein 16 (Secretory lectin ZG16)	18.2	17.5	9.17	210	72%	9	Zymogen granules, peripheral membrane protein	May act as a linker molecule between the submembranous matrix on the luminal side of zymogen granule membrane (ZGM) and aggregated secretory proteins during granule formation at the TGN. ¹¹
B38	SYCN_RAT	#Syncollin	15.9	15.4	8.61	120	29%	7	Cytoplasmic vesicle, secretory vesicle membrane; Peripheral membrane protein.	Compound exocytosis. Associated with lipid rafts in a cholesterol-dependent manner. Interacts with GP2. ¹²
B36	B2RZA9_RAT	Ubiquitin carrier protein	17.8	16.7	8.68	56.8	45%	7		Ubl conjugation pathway

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B35	LIPR2_RAT	Pancreatic lipase-related protein 2	52.5	14.1	5.92	88.8	22%	9	Zymogen granules of the exocrine pancreas.	Lipid degradation. ¹³
B41		Not identified								
B45		Not identified								
B39	COL_RAT	Colipase	12.2	11.8	8.04	57	36%	4	Zymogen granules of the exocrine pancreas. Content protein.	Cofactor of pancreatic lipase. Allows the lipase to anchor itself to the lipid-water interface. ¹⁴
B44			12.2	9.6	8.04	125	43%	5		
B43			12.2	9.2	8.04	85.3	64%	7		
B46	Q9EQZ8_RAT	Chymopasin	28.1	27.3	8.56	51	40%	7	Zymogen granules of the exocrine pancreas.	S1-peptidase, serine protease. ¹⁵

References

- (1) Lowe, M. E., The triglyceride lipases of the pancreas. *J Lipid Res* **2002**, *43* (12), 2007-16.
- (2) Payne, R. M.; Sims, H. F.; Jennens, M. L.; Lowe, M. E., Rat pancreatic lipase and two related proteins: enzymatic properties and mRNA expression during development. *Am J Physiol* **1994**, *266* (5 Pt 1), G914-21.
- (3) MacDonald, R. J.; Crerar, M. M.; Swain, W. F.; Pictet, R. L.; Thomas, G.; Rutter, W. J., Structure of a family of rat amylase genes. *Nature* **1980**, *287* (5778), 117-22.
- (4) Kissel, J. A.; Fontaine, R. N.; Turck, C. W.; Brockman, H. L.; Hui, D. Y., Molecular cloning and expression of cDNA for rat pancreatic cholesterol esterase. *Biochim Biophys Acta* **1989**, *1006* (2), 227-36.
- (5) Lutzelschwab, C.; Pejler, G.; Aveskogh, M.; Hellman, L., Secretory granule proteases in rat mast cells. Cloning of 10 different serine proteases and a carboxypeptidase A from various rat mast cell populations. *J Exp Med* **1997**, *185* (1), 13-29.

- (6) MacDonald, R. J.; Swift, G. H.; Quinto, C.; Swain, W.; Pictet, R. L.; Nikovits, W.; Rutter, W. J., Primary structure of two distinct rat pancreatic preproelastases determined by sequence analysis of the complete cloned messenger ribonucleic acid sequences. *Biochemistry* **1982**, *21* (6), 1453-63.
- (7) Coll, J. L.; Ben-Ze'ev, A.; Ezzell, R. M.; Rodriguez Fernandez, J. L.; Baribault, H.; Oshima, R. G.; Adamson, E. D., Targeted disruption of vinculin genes in F9 and embryonic stem cells changes cell morphology, adhesion, and locomotion. *Proc Natl Acad Sci U S A* **1995**, *92* (20), 9161-5.
- (8) Fletcher, T. S.; Alhadeff, M.; Craik, C. S.; Largman, C., Isolation and characterization of a cDNA encoding rat cationic trypsinogen. *Biochemistry* **1987**, *26* (11), 3081-6.
- (9) Beintema, J. J., Rat pancreatic ribonuclease: agreement between the corrected amino acid sequence and the sequence derived from its messenger RNA. *FEBS Lett* **1983**, *159* (1-2), 191-5.
- (10) Iwai, N.; Inagami, T., Molecular cloning of a complementary DNA to rat cyclophilin-like protein mRNA. *Kidney Int* **1990**, *37* (6), 1460-5.
- (11) Cronshagen, U.; Voland, P.; Kern, H. F., cDNA cloning and characterization of a novel 16 kDa protein located in zymogen granules of rat pancreas and goblet cells of the gut. *Eur. J. Cell Biol.* **1994**, *65* (2), 366-77.
- (12) Edwardson, J. M.; An, S.; Jahn, R., The secretory granule protein syncollin binds to syntaxin in a Ca²⁺- sensitive manner. *Cell* **1997**, *90* (2), 325-33.
- (13) Wishart, M. J.; Andrews, P. C.; Nichols, R.; Blevins, G. T., Jr.; Logsdon, C. D.; Williams, J. A., Identification and cloning of GP-3 from rat pancreatic acinar zymogen granules as a glycosylated membrane-associated lipase. *J Biol Chem* **1993**, *268* (14), 10303-11.
- (14) Wicker, C.; Puigserver, A., Rat pancreatic colipase mRNA: nucleotide sequence of a cDNA clone and nutritional regulation by a lipidic diet. *Biochem Biophys Res Commun* **1990**, *167* (1), 130-6.
- (15) Sogame, Y.; Kataoka, K.; Kato, M.; Sakagami, J.; Osawa, S.; Takatera, A.; Mitsuyoshi, M.; Usui, N.; Mitsui, S.; Yamaguchi, N., Molecular cloning and characterization of chymopasin, a novel serine protease from rat pancreas. *Pancreas* **2002**, *25* (4), 378-86.