Table 1. Protein features and their sources.

Feature type	Feature group	# Features	Description	Source/Software.package
Experimental abundance	Production in mouse	18	Protein and mRNA copy numbers, half-lives, transcription rates and translation rate constants in mouse fibroblasts	10.1038/nature10098
	Production in yeast	1	Production yield of fusion proteins with fractions of human secretome in yeast.	10.1093/bioinformatics/btx207
	Human tissue expression	17	Secretome expression in various human tissues	GTEx
	Human tissue protein level	19	Protein level across different human tissues	HPA
	Endogenous expresion of CHO ortholog	6	Endogenous expression of CHO ortholog under various conditions	this study 10.1038/srep40388
Sequence features	Molecular weight	1	Molecular weight of protein	this study
	Post-translational modifications	29	Number of post-translational modifications normalized with respect to sequence length	10.1371/journal.pone.0063284 iPTMnet ScanPRosite
	AA composition	20	Amino acid composition (AAC)	this study
	AA composition correlation with CHO	22	Correlation of AAC with AAC in native CHO cells	
	AA class composition	30	Global percentage of various AA classes	Peptides protr
	AA class transition	21	Percent frequency of transitions between pairs of AA classes	protr package
	RNA secondary structure	3	RNA minimum free energy (MFE), normalized ensemble free energy (EFE), and MFE normalized with respect to sequence length	RNAfold
Biophysical features	Stability	4	Stability, instablity, and alaphatic indices	Peptides ProtParam ProTstab
	Solubility	7	Isoelectric point, net charge, percent solubility, and grand average of hydrophobicity (GRAVY)	Peptides ProtParam Protein-Sol
	PPI potential	1	Potential protein protein interaction index.	Peptides package
	Secondary structure	11	3- and 8-category predictions of protein secondary structure	Scratch
	Relative solvent accessibility	8	Solvent-accessible fraction, percent hydrophobic and hydrophilic solvent-accessible residues, mean accessibility score, and GRAVY of inner and outer residues	Scratch