

Table S2. Enzymes with catalytic non-redox Cys

PDB ID	Protein name (pdb header)	SOURCE	FOLD	Catalytic Cys (pdb numbering)
1PE6	<i>Papain</i>	<i>Carica papaya</i>	<i>Cysteine proteinases</i>	25
1DF0	<i>M-calpain</i>	<i>Rattus norvegicus</i>	<i>Cysteine proteinases</i>	105
1DKI	<i>Zymogen form of Exotoxin B</i>	<i>Streptococcal pyrogenic exotoxin</i>	<i>Cysteine proteinases</i>	47
1CMX	<i>Ubiquitin YUH1-UBAL</i>	<i>Homo sapiens</i>	<i>Cysteine proteinases</i>	90
1QMY	<i>FMD Virus leader protease</i>	<i>Foot-and-mouth disease virus</i>	<i>Cysteine proteinases</i>	51
1CV8	<i>Staphopain</i>	<i>Staphylococcus aureus</i>	<i>Cysteine proteinases</i>	24
1ICE	<i>Caspase-1</i>	<i>Rattus norvegicus</i>	<i>Caspase-like</i>	285
1CVR	<i>Gingipain R</i>	<i>Porphyromonas gingivalis</i>	<i>Caspase-like</i>	244
1AVP	<i>Adenovirus 2 proteinase</i>	<i>Adenovirus type 2</i>	<i>Cysteine proteinases</i>	122
1EUV	<i>ULP1 endopeptide</i>	<i>Saccharomyces cerevisiae</i>	<i>Cysteine proteinases</i>	580
1AUG_	<i>Pyroglutamyl peptidase I</i>	<i>Bacillus amyloliquefaciens</i>	<i>Phosphorylase/hydrolase-like</i>	144
1AT0	<i>hedgehog autoprocessing domain (Hhc)</i>	<i>Drosophila melanogaster</i>	<i>Hedgehog/intein (Hint) domain</i>	122
1HAV	<i>Picornain 3C</i>	<i>Hepatitis A virus</i>	<i>Trypsin-like serine proteases</i>	172
1GFY	<i>Protein Tyrosine phosphatase (PTP) 1B</i>	<i>Homo sapiens</i>	<i>(Phosphotyrosine protein) phosphatases II</i>	258
1D5R	<i>PTEN</i>	<i>Homo sapiens</i>	<i>(Phosphotyrosine protein) phosphatases II</i>	124
2FEK	<i>PTP</i>	<i>Escherichia coli</i>	<i>Phosphotyrosine protein phosphatases I-like</i>	9
1YPV	<i>Thymidylate synthase</i>	<i>Homo sapiens</i>	<i>Thymidylate synthase/dCMP hydroxymethylase</i>	195
1TJS	<i>Thymidylate synthase</i>	<i>Escherichia coli</i>	<i>Thymidylate synthase/dCMP hydroxymethylase</i>	146
1YTS	<i>PTP</i>	<i>Yersinia enterocolitica</i>	<i>Phosphotyrosine protein phosphatases I-like</i>	403
2I6P	<i>PTP</i>	<i>archaeal sulfolobus</i>	<i>(Phosphotyrosine protein) phosphatases II</i>	96
1JLN	<i>PTP</i>	<i>Mus musculus</i>	<i>(Phosphotyrosine protein) phosphatases II</i>	480
1D1P	<i>Low molecular weight PTP</i>	<i>Saccharomyces cerevisiae</i>	<i>Phosphotyrosine protein phosphatases I-like</i>	13
2NQA	<i>Calpain</i>	<i>Homo sapiens</i>	<i>Cysteine proteinases</i>	105
1QXP	<i>mu-like calpain</i>	<i>Rattus norvegicus</i>	<i>Cysteine proteinases</i>	105
3BCN	<i>Papain-like Ervatamin-A</i>	<i>Ervatamia coronaria</i>	<i>Cysteine proteinases</i>	25
2E00	<i>bleomycin hydrolase</i>	<i>Saccharomyces cerevisiae</i>	<i>Cysteine proteinases</i>	73
1M72	<i>Caspase-1</i>	<i>Spodoptera frugiperda</i>	<i>Caspase-like</i>	178
2HBY	<i>Caspase-1</i>	<i>Homo sapiens</i>	<i>Caspase-like</i>	285
2FO5	<i>Barley cysteine endoprotease B isoform 2</i>	<i>Hordeum vulgare</i>	<i>Cysteine proteinases</i>	28
1GCB	<i>Dna binding protease</i>	<i>Saccharomyces cerevisiae</i>	<i>Cysteine proteinases</i>	73
2Z3E	<i>CoV 3C-Like peptidase</i>	<i>SARS Coronavirus</i>	<i>Trypsin-like serine proteases</i>	145
2OIV	<i>XopD, Ubiquitin-like Protein Protease</i>	<i>Xanthomonas campestris</i>	<i>Cysteine proteinases</i>	470
2BDZ	<i>Mexicain</i>	<i>Jacaratia mexicana</i>	<i>Cysteine proteinases</i>	25
2A5I	<i>Human_SARS coronavirus main peptidase</i>	<i>SARS Coronavirus</i>	<i>Trypsin-like serine proteases</i>	145
1JQP	<i>Cathepsin C</i>	<i>Rattus norvegicus</i>	<i>Cysteine proteinases</i>	233

2DJG	<i>Dipeptidyl peptidase I</i>	<i>Homo sapiens</i>	<i>Cysteine proteinases</i>	234
1YOV	<i>Ubiquitin-activating enzyme (E1 enzyme)</i>	<i>Homo sapiens</i>	<i>Activating enzymes of the ubiquitin-like proteins</i>	216