

Supplementary Table S2. Proteins in B cell proteome database. Proteins are identified either by PMF or by combining MS and MS/MS spectral data

(Supplementary Table S3) for database searches. Identifications were confirmed by operator inspection.

| Protein name (abbreviation) | SSP ^{a)} | Accession ^{b)} | Identification ^{c)} | Mascot score ^{d)} | Intensity coverage (%) | Sequence coverage (%) | Peptide matches | Mr | pI | Status ^{e)} | 2D-GE DB SSP ^{f)} |
|---|-------------------|-------------------------|------------------------------|----------------------------|------------------------|-----------------------|-----------------|----|-----|----------------------|----------------------------|
| 14-3-3 protein- β/α | 185 | P31946 | PMF | 75 | 71 | | 6 | | | 1R | null |
| 14-3-3 protein- ϵ | 172 | P62258 | PMF comb. | 69 | 28 | 36 | 9 | 31 | 4 | 1R | 71 |
| 14-3-3 protein- τ | 180 | P27348 | PMF | 114 | 74 | 35 | 10 | | | 17, 7R | null |
| 26S proteasome non-ATPase regulatory subunit 14 | 155 | O00487 | PMF | 74 | 45 | 30 | 6 | 35 | 6.3 | 2 | 68 |
| 40S ribosomal protein SA | 130 | P08865 | PMF | 147 | 92 | 41 | 10 | | | 1R | null |
| 60S acidic ribosomal protein P0 (RPLP0) | 146 | P05388 | PMF | 156 | 54 | 33 | 13 | 36 | 5.5 | 11R | 64 |
| | 148 | P05388 | PMF comb. | 158 | 64 | 10 | | 36 | 6.1 | 1, Ramos | 65 |
| | 150 | P05388 | PMF | 147 | 92 | 41 | 10 | | 6.1 | 1, Ramos | 65 |
| 60 kDa heat shock protein, mitochondrial (Hsp60) | 54 | P10809 | PMF | 94 | 31 | 27 | 14 | 64 | 5 | 3 | 25 |
| | 55 | P10809 | PMF | | 83 | 43 | 17 | 64 | 5.1 | 3 | 26 |
| Acidic leucine-rich nuclear phosphoprotein 32 family member A | 179 | P39687 | PMF | 99 | 48 | 38 | 7 | 29 | 3.5 | bkg | 80 |
| β -Actin | 112 | P60709 | PMF | 143 | 52 | 52 | 18 | 44 | 5 | 3R | 54 |
| | 113 | P60709 | PMF | | | 50 | | | | bkg | 55 |
| | 114, 115 | P60709 | PMF | 201 | 92 | 43 | 15 | | | 15, 3R | null |
| | 121 | P60709 | PMF | | | 22 | 6 | 42 | 5.7 | 5R | 56 |
| | 122 | P60709 | PMF | 174 | 89 | 41 | 13 | 42 | 5.9 | 5R | 57 |
| | 126 | P60709 | PMF | | | 50 | 15 | 43 | 5.1 | 11 | 55 |
| | 127 | P60709 | PMF | | | 50 | 15 | 43 | 5.1 | 3R | 55 |
| | 162 | P60709 | PMF | 78 | 57 | 24 | 7 | 33 | 4.4 | B, 7R | 72 |
| | 173 | P60709 | PMF | 98 | 18 | 79 | 9 | 30 | 5.1 | B, 6R | 74 |
| | 186 | P60709 | MS/MS | 80 | | | | 28 | 5.3 | bkg | 83 |
| γ -Actin | 198 | P63261 | PMF | 119 | 92 | 38 | 7 | 26 | 5.5 | 6R | 95 |

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| | | | | | | | | | | | | |
|--|-----|--------|-----------|-----|----|----|----|----|-----|-----|-----------|------|
| Actin-related protein 2/3 (Arp 2/3) complex subunit 5-like protein | 221 | Q9BPX5 | PMF comb. | 114 | 88 | 21 | 3 | | | | 3, 1R | null |
| Actin-related protein 3 | 94 | P61158 | PMF | 254 | 84 | 55 | 22 | 48 | 5.6 | bkg | | 49 |
| ACTN3 protein | 182 | Q4VAM3 | PMF | 71 | 39 | 16 | 8 | 30 | | bkg | | null |
| Adenosylhomocysteinase | 117 | P23526 | PMF | 126 | 83 | 23 | 11 | 44 | 6.3 | 16 | | 58 |
| Annexin A5 (AnxA5) | 158 | P08758 | PMF | 141 | 66 | 33 | 11 | | | | 12 | null |
| AnxA6 | 38 | P08133 | PMF | 340 | 91 | 48 | | | | | 12, Ramos | null |
| Aspartate aminotransferase, mitochondrial (mAspAT) | 129 | P00505 | PMF | 194 | 87 | 16 | | | | | 4, 10R | null |
| Aspartyl-tRNA synthetase, cytoplasmic | 78 | P14868 | PMF | 159 | 91 | 25 | 11 | 54 | 6.7 | bkg | | 43 |
| ATP-dependent RNA helicase DDX39 | 72 | O00148 | PMF | 107 | 73 | 22 | 10 | 55 | 5.4 | bkg | | 39 |
| ATP synthase subunit β , mitochondrial | 93 | P06576 | PMF | | | 47 | 18 | 50 | 4.7 | 2 | | 44 |
| Bifunctional purine biosynthesis protein PURH | 47 | P31939 | PMF | 129 | 65 | 29 | 16 | 68 | 6.7 | 16 | | 23 |
| Biliverdin reductase A | 144 | P53004 | PMF comb. | 70 | 16 | 18 | 4 | 33 | 6.5 | B | | null |
| Bruton tyrosine kinase (Btk) | 138 | Q06187 | PMF | | | 23 | 10 | 39 | 6.9 | 16 | | 66 |
| Chloride intracellular channel protein 1 | 169 | O00299 | PMF | 224 | 55 | 54 | 14 | | | | B | null |
| Chromobox protein homolog 2 | 80 | Q14781 | PMF | 60 | 22 | 15 | 6 | | | | 3 | null |
| Citrate synthase, mitochondrial | 118 | O75390 | PMF | 70 | | | 7 | | | | 10R | 60 |
| Cofilin-1 | 218 | P23528 | PMF comb. | 63 | 56 | 39 | 5 | 19 | 6.6 | bkg | | null |
| | 222 | P23528 | MS/MS | | | | | | | | 14, 10R | null |
| Coronin-1A | 58 | P31146 | PMF | | | | 9 | | | | bkg | 33 |
| | 59 | P31146 | PMF | 149 | 46 | 36 | 15 | 60 | 6.6 | 15 | | 34 |
| | 88 | P31146 | PMF | 81 | 43 | 28 | 9 | 60 | | bkg | | null |
| Cytochrome b-c1 complex subunit 1, mitochondrial | 101 | P31930 | PMF | 116 | 71 | 28 | | 48 | 5.4 | 2 | | 48 |
| Cytoplasmic aconitate hydratase | 15 | P21399 | PMF | 93 | 97 | 10 | 8 | 99 | 6.2 | 14 | | null |
| Cytosol aminopeptidase | 79 | P28838 | PMF | 239 | 85 | 44 | 19 | 57 | 9 | 10 | | null |
| Cytosolic non-specific dipeptidase | 84 | Q96KP4 | PMF | 266 | 83 | 47 | 20 | | | | 10 | null |
| D-3-phosphoglycerate dehydrogenase | 73 | O43175 | PMF | 164 | 74 | 28 | 14 | 57 | 6.3 | 15 | | null |
| $\delta(3,5)$ - $\delta(2,4)$ -Dienoyl-CoA isomerase, | 164 | Q13011 | PMF | 99 | 79 | 26 | 7 | | | | 4 | null |

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| | | | | | | | | | | | |
|---|---------------------|----------|-----------|-----|----|----|----|-----|-----|--------|------|
| mitochondrial | | | | | | | | | | | |
| | 165 | Q13011 | PMF comb. | 62 | | | 3 | | | 14 | null |
| dUTPase, mitochondrial | 215 | P33316-2 | PMF | 81 | 51 | 46 | 6 | 20 | 5.7 | 15 | 103 |
| Dihydrolipoyl dehydrogenase, mitochondrial | 66 | P09622 | PMF comb. | 126 | 45 | 15 | 6 | 56 | 6.9 | 2 | 36 |
| DJ-1 | 210 | Q99497 | PMF comb. | 54 | 36 | 31 | 4 | 23 | 6.3 | 17 | 102 |
| DNA mismatch repair protein Msh2 | 4 | P43246 | PMF | 64 | 80 | 8 | 7 | | | 14 | null |
| DNA replication licensing factor MCM7 | 6 | P33993 | PMF | | | 12 | 6 | 115 | 6.5 | 16 | 6 |
| | 19 | P33993 | PMF | 229 | 89 | 29 | 20 | | 6.5 | 17 | null |
| Elongation factor 1- β (EF-1- β) | 171 | P24534 | PMF | 82 | 75 | 30 | 6 | | | Ramos | null |
| EF-1- δ | 154 | P29692 | PMF comb. | 120 | 49 | 46 | 10 | | | 7 | null |
| EF-2 | 7 | P13639 | PMF | 112 | 63 | 18 | 13 | | | 15 | null |
| | 8 | P13639 | Match | | | | | 111 | 6.8 | 15 | 7 |
| | 9 | P13639 | Match | | | | | 111 | 6.8 | 15 | 8 |
| | 10 | P13639 | PMF | | | 13 | 8 | 111 | 6.9 | 15 | 9 |
| | 11 | P13639 | Match | | | | | 111 | 6.9 | 15 | 10 |
| Endoplasmic (GRP-94) | 12 | P14625 | PMF | 285 | 84 | 41 | 37 | 113 | 4.3 | 8 | 2 |
| α -Enolase | 95 | P06733 | PMF | 88 | 37 | 22 | 9 | | | 15 | null |
| | 96 | P06733 | PMF | 159 | 52 | 49 | 19 | | | B | null |
| | 103 | P06733 | PMF | 150 | 49 | 47 | | 49 | 6.8 | B, 9R | 51 |
| | 104, 105, 110 | P06733 | PMF | | | 49 | 16 | 48 | 6.9 | 15 | 52 |
| α -Enolase | 106 | P06733 | PMF | 244 | 97 | 49 | 17 | | | 15, 4R | null |
| γ -Enolase | 107 | P09104 | PMF | 263 | 88 | 53 | 20 | | | 12 | null |
| Enoyl-CoA hydratase, mitochondrial | 190 | P30084 | PMF | 79 | 37 | 28 | 6 | | | bkg | null |
| ER resident protein 29 (ERp29) | 183 | P30040 | PMF | 92 | 74 | 29 | 7 | | | 14 | null |
| Eukaryotic translation initiation factor 2 subunit 1 (eIF-2- α) | 142 | P05198 | PMF comb. | 68 | 25 | 14 | 4 | | | 2, 3R | null |
| eIF-5A-1 | 224 | P63241 | PMF comb. | 135 | 51 | 49 | 5 | | | 18 | null |
| Ezrin | 21 | P15311 | PMF | 143 | 63 | 29 | 17 | | | 15, 7R | null |

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| | | | | | | | | | | | |
|---|-----|----------|-----------|-----|-----|----|----|----|-----|--------|------|
| F-actin capping protein subunit β | 170 | P47756 | PMF | 103 | 46 | 38 | 10 | 31 | 5.5 | bkg | 76 |
| Fatty acid-binding protein, epidermal | 228 | Q01469 | PMF | 82 | 8 | 61 | 6 | | | B | null |
| Fatty acid synthase | 3 | P49327 | PMF | 204 | 91 | 12 | 24 | | | 6R | null |
| Fructose-bisphosphate aldolase A | 134 | P04075 | PMF | 142 | 56 | 40 | 12 | | | 16, 9R | null |
| Fructose-bisphosphate aldolase C | 132 | P09972 | PMF | 165 | 70 | 49 | 12 | 40 | 6.9 | bkg | 62 |
| Fumarate hydratase, mitochondrial | 111 | P07954 | PMF | 100 | 100 | 21 | 6 | 46 | 7.1 | bkg | 53 |
| Galectin-1 | 230 | P09382 | PMF | 141 | 43 | 63 | 8 | | | 12 | null |
| 78 kDa glucose-regulated protein (GRP-78) | 25 | P11021 | PMF | 372 | 87 | 54 | 30 | | | 8 | null |
| | 26 | P11021 | PMF | 304 | 86 | 45 | 27 | | | 8 | null |
| | 27 | P11021 | PMF | 206 | 86 | 36 | 18 | 72 | 4.9 | 8 | null |
| Glutathione S-transferase σ -1 | 178 | P78417 | PMF | 116 | 88 | 28 | 8 | | | B | null |
| Glutathione S-transferase P | 207 | P09211 | PMF comb. | 85 | 52 | 49 | 7 | 25 | 5.1 | bkg | 93 |
| | 208 | P09211 | PMF | 121 | 32 | 62 | 11 | 24 | 5.4 | B | 94 |
| Glycyl-tRNA synthetase | 23 | P41250 | PMF | | | 16 | 8 | 83 | 6.2 | B | 12 |
| Growth factor receptor-bound protein 2 | 200 | P62993 | PMF | 129 | 83 | 38 | 9 | 26 | 6 | bkg | 97 |
| GTP-binding nuclear protein Ran | 211 | P62826 | PMF | 95 | 52 | 45 | 7 | 24 | 7 | bkg | 100 |
| Heat shock cognate 71 kDa protein | 32 | P11142-2 | PMF | | | 18 | 10 | 76 | 5.2 | bkg | 13 |
| HSP 75, mitochondrial | 29 | Q12931 | PMF | 207 | 76 | 38 | 23 | 79 | 6.7 | B | 16 |
| HSP 90- α | 20 | P07900 | PMF comb. | 134 | 62 | 32 | 13 | 95 | 4.7 | bkg | 3 |
| HSP 90- β | 20 | P08238 | PMF comb. | 321 | 77 | 36 | 13 | 95 | 4.7 | bkg | 3 |
| Heat-shock protein β -1 (HspB1) | 197 | P04792 | PMF | 168 | 96 | 54 | 10 | 26 | 6.1 | 18 | 88 |
| | 199 | P04792 | PMF | 80 | 100 | 23 | 4 | 26 | 5.6 | 8R | 96 |
| Heterogeneous nuclear ribonucleoprotein (hnRNP) A2/B1 | 156 | P22626 | Match | | | | | 34 | 9.1 | bkg | 70 |
| hnRNP C1/C2 | 131 | P07910 | PMF comb. | 128 | 88 | 33 | 5 | 19 | 4.7 | 1, 3R | null |
| | 141 | P07910 | PMF comb. | 68 | | | 2 | | | 2, 3R | null |
| | 143 | P07910 | PMF comb. | 92 | 57 | 21 | 4 | 19 | 4.7 | 6R | null |
| hnRNP H | 85 | P31943 | PMF | 155 | 66 | 46 | 15 | 52 | 5.9 | bkg | 46 |
| | 86 | P31943 | PMF | 96 | 76 | 29 | 8 | 52 | 6 | bkg | null |
| hnRNP K | 53 | P61978 | PMF | 140 | 79 | 33 | 14 | 65 | 5 | B | 24 |

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|---|----------|----------------|-----------|-----|----|----|----|-----|-----|--------|------|
| | 71 | P61978 | PMF comb. | 131 | 42 | 24 | 8 | 48 | 5.2 | B, 2R | null |
| hnRNP Q | 116 | O60506 | PMF | 84 | 79 | 10 | 7 | | | 6R | null |
| HLA class II histocompatibility antigen, DR β 3 chain | 204, 205 | Q860I9 | PMF | 64 | 11 | 73 | 5 | 25 | 7 | bkg | 99 |
| HSPA9 | 33 | Q8N1C8 | PMF | | | 17 | 9 | 76 | 5.4 | 16 | 14 |
| HSP90AB1 | 153 | Q6PK50 | PMF comb. | 87 | | 8 | 3 | 40 | 4.9 | 6, 6R | null |
| Hydroxymethylglutaryl-CoA (HMG-CoA) synthase, cytoplasmic | 69 | Q01581 | PMF | 109 | 41 | 30 | 11 | | | B, 1R | null |
| | 70 | Q01581 | PMF | 152 | 66 | 34 | 14 | | 5.1 | B, 1R | null |
| Hypoxia up-regulated protein 1 (GRP-170) | 1 | Q9Y4L1 | PMF | 109 | 40 | 28 | 22 | 150 | 5 | 14 | 1 |
| | 2 | Q9Y4L1 | PMF | 184 | 89 | 21 | 20 | 150 | | 14 | null |
| Ig λ | 168 | P04211, P0CG04 | PMF | 89 | | | 6 | 30 | 4.9 | 6, 8R | |
| Ig λ , VLJ region | 175 | P04209 | PMF comb. | 74 | 12 | 36 | 5 | | | 6 | null |
| Ig μ , C region | 30 | P01871 | PMF | 141 | 76 | 28 | 12 | 80 | | 6 | null |
| | 31 | P01871 | PMF | 168 | 77 | 24 | 14 | 80 | | 6 | null |
| Importin subunit α -2 | 61 | P52292 | PMF | 81 | 42 | 22 | 9 | | | bkg | null |
| Inosine-5'-monophosphate dehydrogenase 2 (IMPD 2) | 65 | P12268 | PMF | 68 | 21 | 29 | 10 | 59 | 6.8 | 11 | 35 |
| Isocitrate dehydrogenase [NAD] subunit α , mitochondrial | 136 | P50213 | PMF | 138 | 84 | 31 | 11 | 38 | 5.9 | 15 | 61 |
| Lamin-B1 | 40 | P20700 | PMF | 68 | 16 | 30 | 11 | 75 | 4.9 | 18 | 17 |
| | 41 | P20700 | PMF | 120 | 47 | 29 | 13 | 72 | 5 | 19, 1R | 18 |
| Leukocyte elastase inhibitor | 123 | P30740 | PMF | 111 | 79 | 27 | 9 | 43 | 5.9 | B | null |
| L-lactate dehydrogenase B chain (LDH-B) | 147, 149 | P07195 | PMF comb. | 46 | 21 | 19 | 6 | 35 | 5.7 | 16, 9R | 67 |
| LOC728395 protein | 135 | A4FUW6 | PMF | 119 | 85 | 31 | 8 | | | B | null |
| Malate dehydrogenase, cytoplasmic (Mdh1) | 151 | P40925 | PMF | 83 | 85 | 22 | 6 | 36 | 6.8 | 16 | 69 |

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| | | | | | | | | | | | |
|--|----------|----------|-----------|-----|----|----|----|-----|-----|---------|------|
| Mdh2 | 152 | Q6FHZ0 | PMF | 168 | 66 | 51 | 16 | 36 | 9.8 | B, 10R | null |
| Melanoma-associated antigen 4 (MAGE 4) | 119 | P43358 | PMF | 134 | 93 | 31 | 9 | | | 14 | null |
| | 120 | P43358 | PMF | 117 | 91 | 29 | 8 | | | 14 | null |
| Mitochondrial aldehyde dehydrogenase 2 | 75 | Q53FB6 | PMF | 209 | 91 | 40 | 15 | | | 6 | null |
| Moesin | 24 | P26038 | PMF | 149 | 73 | 34 | 18 | | | 11 | null |
| Myosin regulatory light chain 12A | 216 | P19105 | PMF comb. | 46 | | | | | | 6R | null |
| Neutral α -glucosidase AB | 5 | Q14697-1 | PMF | 105 | 82 | 11 | 10 | | 5.9 | 9 | null |
| | 14 | Q14697 | PMF | 297 | 97 | 40 | 27 | 110 | 5.8 | 9 | 5 |
| Non-specific lipid-transfer protein (NSL-TP), isoform CSP2 | 231 | P22307-2 | PMF | 131 | 76 | 19 | 8 | | | 6 | null |
| NSL-TP | 232 | P22307-2 | PMF | 131 | 76 | 19 | 6 | | | 6 | null |
| Nucleophosmin | 140, 145 | P06748 | PMF | 65 | 62 | 31 | 6 | 37 | 4.2 | bkg | 63 |
| Nucleoside diphosphate kinase A (NDK A) | 217 | P15531 | PMF | | 83 | 57 | 11 | 19 | 5.9 | 16, 9R | 104 |
| Peptidyl-prolyl cis-trans isomerase A | 225 | P62937 | PMF | 120 | 68 | 59 | 11 | 16 | 7.1 | 15 | 108 |
| | 226 | P62937 | Match | | | | | 16 | 7.6 | 15 | 109 |
| Peroxiredoxin (Prdx-1) | 212 | Q06830 | PMF | 144 | 59 | 71 | 10 | 23 | 7.4 | 19 | 101 |
| | 213 | Q06830 | PMF | 122 | 72 | 44 | 8 | | 8.8 | 11 | null |
| Prdx-2 | 214 | Q06830 | PMF | 100 | 82 | 40 | 6 | | | bkg | null |
| Prdx-4 | 189 | Q13162 | PMF | 89 | 40 | 51 | 8 | 27 | 5.6 | 5 | 84 |
| Plastin-2 | 42 | P13796 | PMF | 144 | 93 | 21 | 12 | | 4.9 | B, 11R | null |
| | 43 | P13796 | PMF | 210 | 80 | 34 | 19 | 69 | 5 | B, 11R | 20 |
| | 44 | P13796 | PMF | 69 | 50 | 12 | 9 | 71 | 5.1 | B, 4R | 21 |
| | 45 | P13796 | PMF | 89 | 77 | 21 | 12 | | 5.2 | B, 4R | null |
| Phosphoglycerate mutase 1 | 184 | P18669 | PMF | 107 | 52 | 44 | 8 | 29 | 6.6 | 14, 11R | 86 |
| | 187 | P18669 | PMF | 193 | 97 | 51 | 12 | 28 | 6.9 | 17 | 87 |
| | 191 | P18669 | PMF | 254 | 55 | 70 | 19 | 28 | 6.1 | bkg | 85 |
| Phosphoserine aminotransferase | 133 | Q9Y617 | PMF | 70 | 34 | 20 | 7 | 41 | 8.7 | B | null |
| Pre-mRNA-processing factor 40 homolog A (HIP-10) | 28 | O75400 | PMF | 77 | 77 | 20 | 6 | 90 | | B, 4R | null |

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|---|-----|--------|-----------|-----|----|----|----|----|-----|--------|------|
| Profilin-1 | 229 | P07737 | PMF comb. | 95 | 27 | 37 | 4 | | | 13 | null |
| Prohibitin | 176 | P35232 | PMF | 229 | 96 | 34 | 13 | 29 | 5.1 | 2 | 82 |
| Proliferating cell nuclear antigen (PCNA) | 157 | P12004 | PMF | 90 | 62 | 30 | | | | 11 | null |
| Proteasome activator 28 subunit α (PA28 α) | 177 | Q06323 | PMF | 107 | 46 | 37 | 9 | 30 | 5.7 | 17 | 77 |
| PA28 β | 174 | Q9UL46 | PMF | 141 | 64 | 46 | 12 | 31 | 5.2 | 17 | 75 |
| PA28 γ | 163 | P61289 | PMF | 91 | 54 | 25 | 7 | | | 3R | null |
| Proteasome subunit α type 2 | 203 | P25787 | Match | | | | | 25 | 6.9 | bkg | 98 |
| Proteasome subunit α type 3 | 181 | P25788 | PMF | 116 | 60 | 38 | 9 | 29 | 5 | 15, 8R | 81 |
| Proteasome subunit α type 7 | 188 | O14818 | PMF | 86 | 73 | 25 | 6 | 28 | 9.3 | 9 | null |
| Protein disulfide-isomerase (PDI) | 60 | P07237 | PMF | 264 | 72 | 42 | 22 | | | 8 | null |
| Protein disulfide-isomerase A3 (ERp60) | 62 | P30101 | PMF | 176 | 65 | 45 | 18 | 58 | 5.7 | 14 | 31 |
| | 63 | P30101 | PMF | | | 40 | 16 | 57 | 5.8 | 14 | 32 |
| | 64 | P30101 | PMF | 181 | 69 | 37 | 18 | | 5.9 | 6 | null |
| Protein disulfide-isomerase A6 (ERp5) | 97 | Q15084 | PMF | 201 | 86 | 45 | 15 | | | 9 | null |
| Rab GDP dissociation Inhibitor β | 102 | P50395 | PMF | 198 | 94 | 34 | 18 | 48 | 6.4 | 16 | 50 |
| Ras GTPase-activating protein-binding protein 1 (G3BP-1) | 49 | Q13283 | PMF | 123 | 35 | 33 | 10 | 52 | 5.3 | B, 3R | null |
| Rho GDP-dissociation inhibitor 1 (Rho GDI 1) | 202 | P52565 | Match | | | | | 26 | 4.6 | bkg | 91 |
| Rho GDI 2 | 206 | P52566 | PMF comb. | 83 | 6 | 25 | 3 | 25 | 4.9 | 19, 1R | 92 |
| RuvB-like 1 | 77 | Q9Y265 | PMF | 152 | 62 | 35 | 12 | 54 | 6.4 | 2 | 41 |
| | 87 | Q9Y265 | PMF comb. | 60 | 25 | 25 | 8 | 53 | 6.5 | 3 | 42 |
| RuvB-like 2 | 89 | Q9Y230 | PMF | 94 | 63 | 20 | 9 | | 5.4 | 2, 5R | null |
| | 90 | Q9Y230 | PMF | | | 29 | 12 | 50 | 5.5 | 2 | 45 |
| Septin-2 | 124 | Q15019 | PMF | 130 | 80 | 34 | 12 | 43 | 6.5 | 15 | 59 |
| Serum albumin | 34 | P02768 | PMF comb. | 30 | | | 3 | | | B, 7R | null |
| | 35 | P02768 | PMF comb. | 87 | | | 5 | | | 3, 7R | null |
| | 36 | P02768 | PMF | 101 | 84 | 16 | 9 | | 5.8 | 3, 7R | null |
| Ser/Thr-protein kinase PAK 2 (PAK-2) | 57 | Q13177 | PMF | 119 | 59 | 35 | 11 | | | 15, 2R | null |
| SET | 125 | Q01105 | PMF | 90 | 82 | 25 | | | | 10, 9R | null |

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|--|-----|--------|-----------|-----|----|----|----|-----|-----|---------|------|
| SET nuclear oncogene | 139 | Q5VXV2 | PMF | 138 | 92 | 26 | | | | 14, 9R | null |
| S-formylglutathione hydrolase | 166 | P10768 | PMF | 140 | 85 | 44 | 10 | | | bkg | null |
| Small nuclear ribonucleoprotein F | 233 | P62306 | MS/MS | 34 | | | 2 | | | bkg | null |
| Sortin nexin-6 | 91 | Q9UNH7 | PMF | 90 | 61 | 28 | 9 | | | bkg | null |
| Succinate dehydrogenase [ubiquinone] flavoprotein subunit mitochondrial (Fp) | 39 | P31040 | PMF | 112 | 92 | 17 | 8 | 72 | 6.6 | 15 | 19 |
| Superoxide dismutase [Cu-Zn] (Sod1) | 220 | P00441 | PMF | 54 | | | | 19 | 5.7 | 14, 9R | 106 |
| Spermidine synthase | 159 | P19623 | PMF | 89 | 6 | 19 | 6 | 34 | 5.1 | bkg | 73 |
| Spliceosome RNA helicase DDX39B | 82 | Q13838 | PMF comb. | 102 | 66 | 24 | 9 | 54 | 5.4 | 18 | 38 |
| | 83 | Q13838 | PMF | 82 | 77 | 19 | 8 | 49 | 5.5 | 11, 3R | null |
| Stathmin | 219 | P16949 | PMF | 70 | 48 | 38 | 7 | | 5.3 | 14, 11R | null |
| | 223 | P16949 | MS/MS | | | | | 18 | 5.6 | 16, 4R | 107 |
| Synaptic vesicle membrane protein VAT-1 homolog | 109 | Q99536 | PMF | 88 | 82 | 25 | 7 | | | 10 | null |
| T-complex protein 1 α | 50 | P17987 | PMF | | | 31 | 14 | 64 | 6 | bkg | 28 |
| T-complex protein 1 ϵ | 48 | P48643 | PMF | 124 | 60 | 38 | 19 | 64 | 5.4 | bkg | 27 |
| T-complex protein 1 γ | 46 | P49368 | PMF | 196 | 85 | 36 | 16 | 68 | 6.4 | bkg | 22 |
| T-complex protein 1 τ | 56 | P50990 | PMF | 190 | 85 | 37 | 17 | 62 | 5.4 | bkg | 30 |
| T-complex protein 1 ζ | 51 | P40227 | PMF | 188 | 85 | 29 | 13 | 65 | 6.7 | bkg | 29 |
| Thioredoxin domain-containig protein 5 (ERp46) | 98 | Q8NBS9 | PMF | 194 | 87 | 27 | 13 | | | 9 | null |
| Transaldolase | 137 | P37837 | PMF comb. | 72 | 30 | 14 | 4 | | | 15 | null |
| Transitional ER ATPase | 16 | P55072 | Match | | | | | 100 | 5 | bkg | 4 |
| Trifunctional purine biosynthetic protein adenosine-3 (PUR2) | 92 | P22102 | PMF comb. | 63 | 30 | | 4 | | | 3R | null |
| Triosephosphate isomerase | 193 | P60174 | Match | | | | | 27 | 6.7 | 15 | 89 |
| | 194 | P60174 | PMF | 326 | 92 | 88 | 21 | 27 | 6.9 | 15 | 90 |
| Tropomyosin α -3 chain isoform 3 | 161 | P06753 | PMF comb. | 121 | 35 | 28 | 7 | | | 11 | null |
| Tropomyosin α -4 chain | 160 | P67936 | PMF | 91 | 33 | 31 | 10 | | | 11 | null |
| Tryptophanyl-tRNA synthetase (TrpRS) | 76 | P23381 | PMF | | | 22 | 8 | 56 | 6.1 | B | 40 |
| Tubulin α | 81 | P05209 | PMF | 138 | 48 | 48 | 15 | 50 | 5.3 | bkg | 37 |

Supplementary Table S2. Proteins in B cell proteome database. Proteins are identified either by PMF or by combining MS and MS/MS spectral data

(Supplementary Table S3) for database searches. Identifications were confirmed by operator inspection.

| | | | | | | | | | | | |
|--|-----|----------|-----|-----|----|----|----|----|-----|-----|------|
| Tumor protein D52 | 201 | P55327 | PMF | 147 | 11 | 63 | 8 | 20 | 4.8 | B | null |
| Tyrosyl-tRNA synthetase, cytoplasmic (TyrRS) | 52 | P54577 | PMF | 176 | 55 | 28 | 14 | | | 3R | null |
| TXNDC5 protein | 99 | Q86UY0 | PMF | 190 | 71 | 56 | 16 | | | 9 | null |
| | 100 | Q86UY0 | PMF | 195 | 60 | 54 | | | | 9 | null |
| | 108 | Q86UY0 | PMF | 138 | 75 | 44 | 12 | | | 9 | null |
| Ubiquitin carboxyl-terminal hydrolase isozyme L1 | 195 | P09936 | PMF | 64 | 27 | 42 | 6 | | | B | null |
| | 196 | P09936 | PMF | 168 | 51 | 70 | | | | 10 | null |
| Ubiquitin carboxyl-terminal hydrolase isozyme L3 | 192 | P15374 | PMF | 144 | 88 | 37 | 9 | | | bkg | null |
| Ubiquitin carboxyl-terminal hydrolase 5 | 13 | P45974-2 | PMF | 97 | 38 | 19 | 12 | | | bkg | null |
| Ubiquitin-like domain-containing CTD phosphatase 1 | 128 | Q8WVY7 | PMF | 64 | 57 | 15 | 6 | | | B | null |
| UPF0587 protein C1orf123 | 209 | Q9NWX4 | PMF | | | | | | | B | null |
| UPF0556 protein C19orf10 | 227 | Q969H8 | PMF | 70 | 46 | 27 | 4 | 15 | 6.7 | 10 | 110 |
| UV excision repair protein RAD23 homolog B (HR23B) | 74 | P54727 | PMF | 94 | 84 | 24 | 7 | | | B | null |
| Vasohibin-2 | 22 | Q86V25-3 | | 54 | | | | | | bkg | null |
| Vimentin | 67 | P08670 | PMF | 236 | 91 | 41 | 18 | | | 14 | null |
| | 68 | P08670 | PMF | 338 | 80 | 66 | 28 | | | 14 | null |
| Voltage-dependent anion-selective channel protein 1 (VDAC-1) | 167 | P21796 | PMF | 149 | 54 | 52 | 11 | 32 | 9 | 3 | 79 |
| X-ray repair cross-complementing protein 5 (Ku80) | 17 | P13010 | PMF | 117 | 74 | 18 | 11 | | 5.7 | 8R | null |
| | 18 | P13010 | PMF | 180 | 65 | 34 | 17 | | 5.9 | 17 | null |
| X-ray repair cross-complementing protein 6 (Ku70) | 37 | P12956 | PMF | 88 | 56 | 17 | 9 | 75 | 6.7 | bkg | 15 |

a) Sample spot number (SSP) refers to those in Figures 2 and 4, and Tables 1-3, S3 and S4.

b) Accession number in UniProt database.

Supplementary Table S2. Proteins in B cell proteome database. Proteins are identified either by PMF or by combining MS and MS/MS spectral data (Supplementary Table S3) for database searches. Identifications were confirmed by operator inspection.

c) Proteins were identified by PMF, by combining PMF and fragment ion analysis (PMF comb.), by fragment ion analysis (MS/MS) or by matching in lymphocyte 2D-GE databases (Match).

d) Mascot score shows the reliability of the identifications ($p < 0.05$) in the database searches. High score indicates a likely identification.

e) Status referring to cluster numbers in Figures 3 and 4, and Tables 1-3 and S4. Ramos and B indicate that the protein exists in the Ramos and B cell dataset (Figures 4 and 3, respectively), but outside numbered clusters. Background (bkg) indicates that the protein abundance did not change.

f) SSP referring to 2D-GE database <http://structure.bmc.lu.se/BcellProteome/> (Salonen et al., (2006). Proteomics 6: 5152-5168). Null indicates a new identification that does not exist in the 2D-GE database.