Supplementary Table 1. List of proteins up- or down-regulated by AS or AC[#]

Protein ID	Description	AS/CK	AC/CK
Generic binding protein			
Actg1*	actin, gamma, cytoplasmic 1 [Source:MGI Symbol;Acc:MGI:87906]	**1.47**	**2.27**
Ahnak	AHNAK nucleoprotein (desmoyokin)	**0.62**	**0.32**
Ambp	alpha 1 microglobulin/bikunin [Source:MGI Symbol;Acc:MGI:88002]	**10.72**	**13.95**
Ank3	ankyrin 3, epithelial [Source:MGI Symbol;Acc:MGI:88026]	**1.85**	**2.91**
Ankrd17	ankyrin repeat domain 17 [Source:MGI Symbol;Acc:MGI:1932101]	**0.46**	**0.24**
Anxa5*	annexin A5 [Source:MGI Symbol;Acc:MGI:106008]	**1.85**	**12.6**
Apcs	serum amyloid P-component [Source:MGI Symbol;Acc:MGI:98229]	**1.85**	**6.78**
Armcx1	armadillo repeat containing, X-linked 1 [Source:MGI Symbol;Acc:MGI:1925498]	**5.54**	**0.97**
Azgp1	alpha-2-glycoprotein 1, zinc [Source:MGI Symbol;Acc:MGI:103163]	**1.85**	**19.38**
C3*	complement component 3 [Source:MGI Symbol;Acc:MGI:88227]	**0.41**	**3.46**
C8a	complement component 8, alpha polypeptide [Source:MGI Symbol;Acc:MGI:2668347]	**2.22**	**2.52**
C8b	complement component 8, beta polypeptide [Source:MGI Symbol;Acc:MGI:88236]	**1.85**	**2.66**
C8g	complement component 8, gamma polypeptide [Source:MGI Symbol;Acc:MGI:88237]	**5.54**	**8.4**
Capza2	capping protein (actin filament) muscle Z-line, alpha 2 [Source:MGI Symbol;Acc:MGI:	**0.46**	**0.24**
Cfh	complement component factor h [Source:MGI Symbol;Acc:MGI:88385]	**1.85**	**6.24**
Clu	clusterin [Source:MGI Symbol;Acc:MGI:88423]	**3.93**	**5.21**
Cntnap5a	contactin associated protein-like 5A [Source:MGI Symbol;Acc:MGI:3643623]	**5.17**	**0.1**
Col1a1	collagen, type I, alpha 1 [Source:MGI Symbol;Acc:MGI:88467]	**0.31**	**1.94**
Col1a2*	collagen, type I, alpha 2 [Source:MGI Symbol;Acc:MGI:88467]	**0.74**	**2**
Col3a1	collagen, type III, alpha 1 [Source:MGI Symbol;Acc:MGI:88453]	**3.08**	**0.32**
Cpn2	carboxypeptidase N, polypeptide 2 [Source:MGI Symbol;Acc:MGI:1919006]	**4.62**	**13.57**
Crp	C-reactive protein, pentraxin-related [Source:MGI Symbol;Acc:MGI:88512]	**1.85**	**9.69**
Cryaa	alpha-crystallin A chain	**0.34**	**0.97**

Cryba1	crystallin, beta A1 [Source:MGI Symbol;Acc:MGI:88518]	**0.28**	**0.75**
Crybb1	crystallin, beta B1 [Source:MGI Symbol;Acc:MGI:104992]	**0.37**	**1.04**
Crygc	crystallin, gamma C [Source:MGI Symbol;Acc:MGI:88523]	**0.16**	**1.48**
Crygs	crystallin, gamma S [Source:MGI Symbol;Acc:MGI:1298216]	**0.92**	**2.79**
Cst3	cystatin C [Source:MGI Symbol;Acc:MGI:102519]	**2.08**	**1.21**
Ctnna2	catenin (cadherin associated protein), alpha 2 [Source:MGI Symbol;Acc:MGI:88275]	**1.85**	**2.91**
Dlg1	discs, large homolog 1 (Drosophila) [Source:MGI Symbol;Acc:MGI:107231]	**1.85**	**2.91**
Dync1h1*	dynein cytoplasmic 1 heavy chain 1 [Source:MGI Symbol;Acc:MGI:103147]	**1.85**	**2.91**
Eef1a1	eukaryotic translation elongation factor 1 alpha 1 [Source:MGI Symbol;Acc:MGI:1096	**1.23**	**13.24**
Eef2	eukaryotic translation elongation factor 2 [Source:MGI Symbol;Acc:MGI:95288]	**0.37**	**4.85**
F2	coagulation factor II [Source:MGI Symbol;Acc:MGI:88380]	**2.77**	**10.17**
Fetub	fetuin beta [Source:MGI Symbol;Acc:MGI:1890221]	**2.46**	**4.85**
Fgb	fibrinogen beta chain [Source:MGI Symbol;Acc:MGI:99501]	**2.4**	**1.55**
Flna*	filamin, alpha [Source:MGI Symbol;Acc:MGI:95556]	**1.85**	**2.91**
Gcn1l1	GCN1 general control of amino-acid synthesis 1-like 1 (yeast) [Source:MGI Symbol;Ac	**0.45**	**0.4**
Gdi2	guanosine diphosphate (GDP) dissociation inhibitor 2 [Source:MGI Symbol;Acc:MGI:9	**1.85**	**2.91**
Gfap	glial fibrillary acidic protein [Source:MGI Symbol;Acc:MGI:95697]	**1.85**	**2.91**
Gsn*	gelsolin [Source:MGI Symbol;Acc:MGI:95851]	**0.92**	**2.47**
H3f3b	H3 histone, family 3B [Source:MGI Symbol;Acc:MGI:1101768]	**16.63**	**16.47**
Hist1h1a	histone cluster 1, H1a [Source:MGI Symbol;Acc:MGI:1931523]	**3.7**	**1.94**
Hist1h1d	histone cluster 1, H1d [Source:MGI Symbol;Acc:MGI:107502]	**1.85**	**3.88**
Hist1h2af	histone cluster 1, H2af [Source:MGI Symbol;Acc:MGI:2448309]	**0.92**	**2.03**
Hist4	Histone H4-like	**2.67**	**3.12**
Hnrnpa2b1	heterogeneous nuclear ribonucleoprotein A2/B1 [Source:MGI Symbol;Acc:MGI:10481	**5.54**	**0.97**
Hrg	histidine-rich glycoprotein [Source:MGI Symbol;Acc:MGI:2146636]	**1.85**	**4.43**
Hsp90aa1	heat shock protein 90, alpha (cytosolic), class A member 1 [Source:MGI Symbol;Acc:M	**2.54**	**0.97**
Hspa5	heat shock protein 5 [Source:MGI Symbol;Acc:MGI:95835]	**1.85**	**9.69**

ICA	Inhibitor Of Carbonic Anhydrase	**1.21**	**2.3**
Igh-6	immunoglobulin heavy chain 6	**1.04**	**3.62**
Ireb2	iron responsive element binding protein 2 [Source:MGI Symbol;Acc:MGI:1928268]	**0.62**	**0.32**
Itih1	inter-alpha trypsin inhibitor, heavy chain 1 [Source:MGI Symbol;Acc:MGI:96618]	**0.31**	**1.78**
Itih2	inter-alpha trypsin inhibitor, heavy chain 2 [Source:MGI Symbol;Acc:MGI:96619]	**1.85**	**4.98**
Itih3	inter-alpha trypsin inhibitor, heavy chain 3 [Source:MGI Symbol;Acc:MGI:96620]	**0.46**	**1.29**
Itih4	inter alpha-trypsin inhibitor, heavy chain 4 [Source:MGI Symbol;Acc:MGI:109536]	**3.23**	**10.42**
Krt17	keratin 17 [Source:MGI Symbol;Acc:MGI:96691]	**3.08**	**1.62**
Krt76	keratin 76 [Source:MGI Symbol;Acc:MGI:1924305]	**1.85**	**12.6**
LCP1	lymphocyte cytosolic protein 1	**1.85**	**48.45**
Lrg1	leucine-rich alpha-2-glycoprotein 1 [Source:MGI Symbol;Acc:MGI:1924155]	**3.21**	**3.85**
Lum	lumican [Source:MGI Symbol;Acc:MGI:109347]	**1.85**	**2.91**
Mug1	murinoglobulin 1 [Source:MGI Symbol;Acc:MGI:99837]	**1.19**	**3.35**
Myh1	myosin, heavy polypeptide 1, skeletal muscle, adult [Source:MGI Symbol;Acc:MGI:13	**0.13**	**1.45**
Myh11	myosin, heavy polypeptide 11	**1.85**	**2.91**
Myh13	myosin, heavy polypeptide 13, skeletal muscle [Source:MGI Symbol;Acc:MGI:133996	**0.26**	**2.35**
Myh3	myosin, heavy polypeptide 3, skeletal muscle, embryonic [Source:MGI Symbol;Acc:M	**0.12**	**1.36**
Myh6	myosin, heavy polypeptide 6, cardiac muscle, alpha [Source:MGI Symbol;Acc:MGI:97	**0.4**	**1.73**
Myh9*	myosin, heavy polypeptide 9, non-muscle [Source:MGI Symbol;Acc:MGI:107717]	**1.85**	**2.91**
Myo3a	myosin IIIA [Source:MGI Symbol;Acc:MGI:2183924]	**1.85**	**0.48**
Ncl	nucleolin [Source:MGI Symbol;Acc:MGI:97286]	**1.85**	**19.38**
Ncor1	nuclear receptor co-repressor 1 [Source:MGI Symbol;Acc:MGI:1349717]	**5.54**	**0.97**
Ngp	neutrophilic granule protein [Source:MGI Symbol;Acc:MGI:105983]	**17.55**	**21.8**
Orm2	orosomucoid 2 [Source:MGI Symbol;Acc:MGI:97444]	**3.7**	**12.6**
Pclo	piccolo (presynaptic cytomatrix protein) [Source:MGI Symbol;Acc:MGI:1349390]	**1.39**	**0.24**
Pebp1	phosphatidylethanolamine binding protein 1 [Source:MGI Symbol;Acc:MGI:1344408]	**0.46**	**0.24**
Pfn1	profilin 1 [Source:MGI Symbol;Acc:MGI:97549]	**3.7**	**1.55**

Prpf8	pre-mRNA processing factor 8 [Source:MGI Symbol;Acc:MGI:2179381]	**1.85**	**2.91**
Rdx	radixin [Source:MGI Symbol;Acc:MGI:97887]	**6.47**	**0.48**
RPL6	Ribosomal L6	**1.85**	**2.91**
Rplp1	ribosomal protein, large, P1 [Source:MGI Symbol;Acc:MGI:1927099]	**3.7**	**13.57**
Rps7	ribosomal protein S7 [Source:MGI Symbol;Acc:MGI:1333818]	**1.85**	**18.41**
Rpsa	ribosomal protein SA [Source:MGI Symbol;Acc:MGI:105381]	**3.7**	**1.94**
S100a9	S100 calcium binding protein A9 (calgranulin B) [Source:MGI Symbol;Acc:MGI:1338	**16.63**	**10.17**
Serpina3c	serine (or cysteine) peptidase inhibitor, clade A, member 3C [Source:MGI Symbol;Acc:	**0.3**	**0.85**
Serpina3m	serine protease inhibitor A3M precursor	**0.49**	**0.94**
Serpina3n	serine (or cysteine) peptidase inhibitor, clade A, member 3N [Source:MGI Symbol;Acc	**1.72**	**6.85**
Serpinc1	serine (or cysteine) peptidase inhibitor, clade C (antithrombin), member 1 [Source:MGI	**2.54**	**4.12**
Serpinf1	serine (or cysteine) peptidase inhibitor, clade F, member 1 [Source:MGI Symbol;Acc:M	**3.7**	**3.88**
Set	SET nuclear oncogene [Source:MGI Symbol;Acc:MGI:1860267]	**1.85**	**15.5**
Smad7	SMAD family member 7 [Source:MGI Symbol;Acc:MGI:1100518]	**1.85**	**3.88**
Spnb1	spectrin beta 1 [Source:MGI Symbol;Acc:MGI:98387]	**0.46**	**0.24**
Spnb2	spectrin beta 2 [Source:MGI Symbol;Acc:MGI:98388]	**0.92**	**2.91**
Tpm2	tropomyosin 2, beta [Source:MGI Symbol;Acc:MGI:98810]	**3.08**	**1.94**
Tpm3	tropomyosin 3, gamma [Source:MGI Symbol;Acc:MGI:1890149]	**3.7**	**1.62**
Triobp	TRIO and F-actin-binding protein	**7.39**	**0.97**
Trp53bp1	part of transformation related protein 53 binding protein 1, isoform CRA_a	**1.85**	**0.48**
Tuba1a	tubulin, alpha 1A [Source:MGI Symbol;Acc:MGI:98869]	**0.62**	**4.85**
Tuba1b*	tubulin, alpha 1B [Source:MGI Symbol;Acc:MGI:107804]	**0.46**	**3.88**
Tubb5	tubulin, beta 5 class I [Source:MGI Symbol;Acc:MGI:107812]	**0.92**	**11.14**
Ubr4	ubiquitin protein ligase E3 component n-recognin 4 [Source:MGI Symbol;Acc:MGI:19	**0.62**	**0.32**
Vim*	vimentin [Source:MGI Symbol;Acc:MGI:98932]	**1.85**	**19.38**
Wdr1	WD repeat domain 1 [Source:MGI Symbol;Acc:MGI:1337100]	**5.54**	**0.97**
Wfikkn2	WAP, follistatin/kazal, immunoglobulin, kunitz and netrin domain containing 2 [Source	**5.54**	**0.97**

Ywhaz	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polype	**3.7**	**2.91**
Zfp503	zinc finger protein 503 [Source:MGI Symbol;Acc:MGI:1353644]	**5.54**	**0.97**
Channel			
Atp1a1	ATPase, Na+/K+ transporting, alpha 1 polypeptide [Source:MGI Symbol;Acc:MGI:881	**1.85**	**3.88**
Npm1	nucleophosmin 1 [Source:MGI Symbol;Acc:MGI:106184]	**1.85**	**7.75**
Generic enzyme			
0610011F06	RIKEN cDNA 0610011F06 gene [Source:MGI Symbol;Acc:MGI:1915597]	**5.17**	**2.71**
Acat1	acetyl-Coenzyme A acetyltransferase 1 [Source:MGI Symbol;Acc:MGI:87870]	**5.54**	**0.97**
Agt	angiotensinogen (serpin peptidase inhibitor, clade A, member 8) [Source:MGI Symbol;/	**1.85**	**12.6**
Aldoa*	aldolase A, fructose-bisphosphate [Source:MGI Symbol;Acc:MGI:87994]	**5.54**	**9.69**
Atic	5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase	**0.46**	**0.24**
Blvrb	biliverdin reductase B (flavin reductase (NADPH)) [Source:MGI Symbol;Acc:MGI:238	**0.57**	**0.13**
C9	complement component 9 [Source:MGI Symbol;Acc:MGI:1098282]	**1.39**	**2.18**
Car1	carbonic anhydrase 1 [Source:MGI Symbol;Acc:MGI:88268]	**0.12**	**0.03**
Car2	carbonic anhydrase 2 [Source:MGI Symbol;Acc:MGI:88269]	**0.23**	**0.04**
Cat	catalase [Source:MGI Symbol;Acc:MGI:88271]	**0.13**	**0.14**
Ces1b	carboxylesterase 1B [Source:MGI Symbol;Acc:MGI:3779470]	**0.8**	**2.52**
Ces1e	carboxylesterase 1E [Source:MGI Symbol;Acc:MGI:95432]	**2.46**	**6.3**
Cp	ceruloplasmin [Source:MGI Symbol;Acc:MGI:88476]	**0.41**	**2.8**
Dhx33	DEAH (Asp-Glu-Ala-His) box polypeptide 33 [Source:MGI Symbol;Acc:MGI:244510	**0.31**	**0.16**
Dnahc2	dynein, axonemal, heavy chain 2 [Source:MGI Symbol;Acc:MGI:107731]	**0.62**	**0.32**
Eif4a1	eukaryotic translation initiation factor 4A1 [Source:MGI Symbol;Acc:MGI:95303]	**5.54**	**5.81**
Eno2	enolase 2, gamma neuronal [Source:MGI Symbol;Acc:MGI:95394]	**3.7**	**7.75**
Enpp2	ectonucleotide pyrophosphatase/phosphodiesterase 2 [Source:MGI Symbol;Acc:MGI:1	**7.39**	**5.81**
Gapdh*	glyceraldehyde-3-phosphate dehydrogenase [Source:MGI Symbol;Acc:MGI:95640]	**0.46**	**2.91**
Gda	guanine deaminase [Source:MGI Symbol;Acc:MGI:95678]	**0.62**	**0.16**
Glo1	glyoxalase 1 [Source:MGI Symbol;Acc:MGI:95742]	**3.7**	**0.48**

Gsr	glutathione reductase [Source:MGI Symbol;Acc:MGI:95804]	**3.7**	**1.94**
Hdac5	histone deacetylase 5 [Source:MGI Symbol;Acc:MGI:1333784]	**0.62**	**0.32**
Hprt	hypoxanthine guanine phosphoribosyl transferase [Source:MGI Symbol;Acc:MGI:9621	**1.85**	**4.85**
Hspa8*	heat shock protein 8 [Source:MGI Symbol;Acc:MGI:105384]	**6.47**	**8.24**
Ldha	lactate dehydrogenase A [Source:MGI Symbol;Acc:MGI:96759]	**0.92**	**5.81**
Ldhb	lactate dehydrogenase B [Source:MGI Symbol;Acc:MGI:96763]	**1.85**	**2.91**
Ldhc	lactate dehydrogenase C [Source:MGI Symbol;Acc:MGI:96764]	**1.85**	**4.85**
Lyz2	lysozyme 2 [Source:MGI Symbol;Acc:MGI:96897]	**3.43**	**1.52**
Mdh1	malate dehydrogenase 1, NAD (soluble) [Source:MGI Symbol;Acc:MGI:97051]	**5.91**	**1.16**
Mpo	myeloperoxidase [Source:MGI Symbol;Acc:MGI:97137]	**1.85**	**5.81**
Pgls	6-phosphogluconolactonase [Source:MGI Symbol;Acc:MGI:1913421]	**0.37**	**0.19**
Ptgds	prostaglandin D2 synthase (brain) [Source:MGI Symbol;Acc:MGI:99261]	**7.39**	**6.78**
Qsox1	quiescin Q6 sulfhydryl oxidase 1 [Source:MGI Symbol;Acc:MGI:1330818]	**0.92**	**2.91**
Rbp4	retinol binding protein 4, plasma [Source:MGI Symbol;Acc:MGI:97879]	**5.54**	**7.75**
Tpi1	triosephosphate isomerase 1	**2.31**	**1.21**
Vcp	valosin containing protein [Source:MGI Symbol;Acc:MGI:99919]	**0.46**	**0.73**
Lars	leucyl-tRNA synthetase [Source:MGI Symbol;Acc:MGI:1913808]	**1.85**	**3.88**
Mll5	Histone-lysine N-methyltransferase MLL5	**0.46**	**0.24**
Chi3l3	chitinase 3-like 3 [Source:MGI Symbol;Acc:MGI:1330860]	**12.93**	**15.5**
Kinase			
Ckb	creatine kinase, brain [Source:MGI Symbol;Acc:MGI:88407]	**0.48**	**0.28**
Nme1	NME/NM23 nucleoside diphosphate kinase 1 [Source:MGI Symbol;Acc:MGI:97355]	**5.54**	**8.72**
Pgk1	phosphoglycerate kinase 1 [Source:MGI Symbol;Acc:MGI:97555]	**1.2**	**0.4**
Pklr	pyruvate kinase liver and red blood cell [Source:MGI Symbol;Acc:MGI:97604]	**0.37**	**0.78**
Pkm*	pyruvate kinase, muscle [Source:MGI Symbol;Acc:MGI:97591]	**3.7**	**34.88**
Phosphatase			
Pgam1	phosphoglycerate mutase 1 [Source:MGI Symbol;Acc:MGI:97552]	**1.85**	**5.33**

Phospholipase			
Gpld1	glycosylphosphatidylinositol specific phospholipase D1 [Source:MGI Symbol;Acc:MG	**0.62**	**2.91**
Prdx5	peroxiredoxin 5 [Source:MGI Symbol;Acc:MGI:1859821]	**2.22**	**0.97**
Protease			
Cfi	complement component factor i [Source:MGI Symbol;Acc:MGI:105937]	**7.39**	**20.35**
F10	coagulation factor X [Source:MGI Symbol;Acc:MGI:103107]	**0.46**	**1.21**
F12	coagulation factor XII (Hageman factor) [Source:MGI Symbol;Acc:MGI:1891012]	**1.85**	**6.78**
Plg	plasminogen [Source:MGI Symbol;Acc:MGI:97620]	**1.52**	**5.99**
Prss1	protease, serine, 1 (trypsin 1) [Source:MGI Symbol;Acc:MGI:98839]	**3.7**	**2.18**
Psma6	proteasome (prosome, macropain) subunit, alpha type 6 [Source:MGI Symbol;Acc:MGI	**0.37**	**0.19**
Psma7	proteasome (prosome, macropain) subunit, alpha type 7 [Source:MGI Symbol;Acc:MGI	**0.21**	**0.11**
Psmb2	proteasome (prosome, macropain) subunit, beta type 2 [Source:MGI Symbol;Acc:MGI:	**0.31**	**0.32**
App	amyloid beta (A4) precursor protein [Source:MGI Symbol;Acc:MGI:88059]	**1.85**	**5.81**
Itga10	integrin, alpha 10 [Source:MGI Symbol;Acc:MGI:2153482]	**5.54**	**0.97**
Krt1	keratin 1 [Source:MGI Symbol;Acc:MGI:96698]	**11.09**	**10.66**
Lifr	leukemia inhibitory factor receptor [Source:MGI Symbol;Acc:MGI:96788]	**1.39**	**2.18**
Pglyrp2	peptidoglycan recognition protein 2 [Source:MGI Symbol;Acc:MGI:1928099]	**1.85**	**10.66**
Generic protein			
6330407J23I	RIKEN cDNA 6330407J23 gene [Source:MGI Symbol;Acc:MGI:1914662]	**5.54**	**0.97**
Ankrd61	ankyrin repeat domain 61 [Source:MGI Symbol;Acc:MGI:1913979]	**7.39**	**0.97**
BC100451	cDNA sequence BC100451 [Source:MGI Symbol;Acc:MGI:1929713]	**1.85**	**3.88**
C7	complement component 7 [Source:MGI Symbol;Acc:MGI:88235]	**1.85**	**4.85**
Atp5b	ATP synthase, H+ transporting mitochondrial F1 complex, beta subunit [Source:MGI S	**16.63**	**11.63**
Cspp1	centrosome and spindle pole associated protein 1 [Source:MGI Symbol;Acc:MGI:26818	**0.62**	**0.32**
Fndc3c1	fibronectin type III domain containing 3C1 [Source:MGI Symbol;Acc:MGI:2685630]	**9.24**	**0.97**
FRG2	protein FRG2-like	**1.85**	**2.91**
Gm5069	predicted pseudogene 5069 [Source:MGI Symbol;Acc:MGI:3644516]	**0.21**	**2.37**

Hmcn1	hemicentin 1 [Source:MGI Symbol;Acc:MGI:2685047]	**1.23**	**0.32**
Nhsl1	NHS-like 1 [Source:MGI Symbol;Acc:MGI:106390]	**1.39**	**0.48**
Nhsl2	NHS-like 2 [Source:MGI Symbol;Acc:MGI:3645090]	**0.46**	**0.24**
Noc3l	nucleolar complex associated 3 homolog (S. cerevisiae) [Source:MGI Symbol;Acc:MG	**1.85**	**2.91**
Protein kinase			
Csnk2a1	casein kinase 2, alpha 1 polypeptide [Source:MGI Symbol;Acc:MGI:88543]	**1.85**	**2.91**
Nme2	NME/NM23 nucleoside diphosphate kinase 2 [Source:MGI Symbol;Acc:MGI:97356]	**2.77**	**2.91**
Ttbk2	tau tubulin kinase 2 [Source:MGI Symbol;Acc:MGI:2155779]	**1.85**	**2.91**
Ttn	titin [Source:MGI Symbol;Acc:MGI:98864]	**0.92**	**0.08**
Receptor ligand			
A2m*	alpha-2-macroglobulin [Source:MGI Symbol;Acc:MGI:2449119]	**11.09**	**10.17**
Apoa2	apolipoprotein A-II [Source:MGI Symbol;Acc:MGI:88050]	**3.5**	**2.3**
Apoa4	apolipoprotein A-IV [Source:MGI Symbol;Acc:MGI:88051]	**2.31**	**3.53**
Apoe	apolipoprotein E [Source:MGI Symbol;Acc:MGI:88057]	**4.47**	**7.67**
C4b	complement component 4B (Chido blood group) [Source:MGI Symbol;Acc:MGI:8822	**0.13**	**1.25**
Camp	cathelicidin antimicrobial peptide	**0.17**	**2.82**
Dbi	diazepam binding inhibitor [Source:MGI Symbol;Acc:MGI:94865]	**5.54**	**0.48**
Fn1	fibronectin 1 [Source:MGI Symbol;Acc:MGI:95566]	**1.85**	**16.47**
Gpi1	glucose phosphate isomerase 1 [Source:MGI Symbol;Acc:MGI:95797]	**9.24**	**4.85**
Hc*	hemolytic complement [Source:MGI Symbol;Acc:MGI:96031]	**0.31**	**0.16**
Hp	haptoglobin [Source:MGI Symbol;Acc:MGI:96211]	**1.85**	**36.82**
IGHG3	Ig gamma-3 chain C region	**12.93**	**8.72**
Kng1	kininogen 1 [Source:MGI Symbol;Acc:MGI:1097705]	**2.41**	**2.48**
Pnp	purine-nucleoside phosphorylase [Source:MGI Symbol;Acc:MGI:97365]	**0.58**	**0.18**
Vtn	vitronectin [Source:MGI Symbol;Acc:MGI:98940]	**0.5**	**1.76**
Receptor with enzyme activity			
Tkt	transketolase [Source:MGI Symbol;Acc:MGI:105992]	**9.24**	**8.72**

Regulators (GDI, GAP, GEF)			
Arhgdia	Rho GDP dissociation inhibitor (GDI) alpha [Source:MGI Symbol;Acc:MGI:2178103]	**0.37**	**0.78**
Arhgdib	Rho, GDP dissociation inhibitor (GDI) beta [Source:MGI Symbol;Acc:MGI:101940]	**9.24**	**7.75**
Rap1gds1	RAP1, GTP-GDP dissociation stimulator 1 [Source:MGI Symbol;Acc:MGI:2385189]	**27.72**	**6.78**
Srgap2	SLIT-ROBO Rho GTPase activating protein 2 [Source:MGI Symbol;Acc:MGI:109605]	**0.62**	**0.32**
Transcription factor			
Aff4	AF4/FMR2 family, member 4 [Source:MGI Symbol;Acc:MGI:2136171]	**1.85**	**0.48**
Ewsr1	Ewing sarcoma breakpoint region 1 [Source:MGI Symbol;Acc:MGI:99960]	**1.85**	**2.91**
Foxa1	forkhead box A1 [Source:MGI Symbol;Acc:MGI:1347472]	**0.62**	**0.32**
Hcfc1	host cell factor C1 [Source:MGI Symbol;Acc:MGI:105942]	**0.31**	**0.16**
Usf2	upstream transcription factor 2 [Source:MGI Symbol;Acc:MGI:99961]	**1.85**	**3.88**
Transporter			
Afm	afamin [Source:MGI Symbol;Acc:MGI:2429409]	**1.85**	**12.6**
Alb*	albumin [Source:MGI Symbol;Acc:MGI:87991]	**0.49**	**0.95**
Apoc3	apolipoprotein C-III [Source:MGI Symbol;Acc:MGI:88055]	**0.43**	**1.65**
Apoh	apolipoprotein H [Source:MGI Symbol;Acc:MGI:88058]	**8.62**	**10.01**
Hba-a2	hemoglobin alpha, adult chain 2 [Source:MGI Symbol;Acc:MGI:96016]	**1.06**	**0.47**
Saa4	serum amyloid A 4 [Source:MGI Symbol;Acc:MGI:98224]	**0.1**	**2.7**
Slc16a6	solute carrier family 16 (monocarboxylic acid transporters), member 6 [Source:MGI Sy	**1.88**	**4.48**
Trf	transferrin [Source:MGI Symbol;Acc:MGI:98821]	**3.47**	**1.68**
Voltage-gated ion channel			
Cacna1d	calcium channel, voltage-dependent, L type, alpha 1D subunit [Source:MGI Symbol;Ac	**0.37**	**0.19**
Prdx1	peroxiredoxin 1 [Source:MGI Symbol;Acc:MGI:99523]	**1.85**	**2.91**
Others			
Gm10123	predicted pseudogene 10123 [Source:MGI Symbol;Acc:MGI:3704342]	**2.61**	**0.91**
Gm20547	predicted gene 20547 [Source:MGI Symbol;Acc:MGI:5142012]	**0.62**	**2.28**
Hsp90ab1	heat shock protein 90 alpha (cytosolic), class B member 1 [Source:MGI Symbol;Acc:M	**2.64**	**1.52**

Kng2	kininogen 2 [Source:MGI Symbol;Acc:MGI:3027157]	**2.19**	**3.27**
mCG142706		**5.54**	**0.97**
ENSMUSP00	BAC39816.1	**0.46**	**0.24**
ENSMUSP00000090894		**1**	**0.46**

[#] see Supplementary Figure 1 for more detailed categorization of regulated proteins ans associated significances, not shown are those insensitive to AS or AC; noticed that CSF proteins might have unusual composition;

* Extracellular vesicular exosome-related.

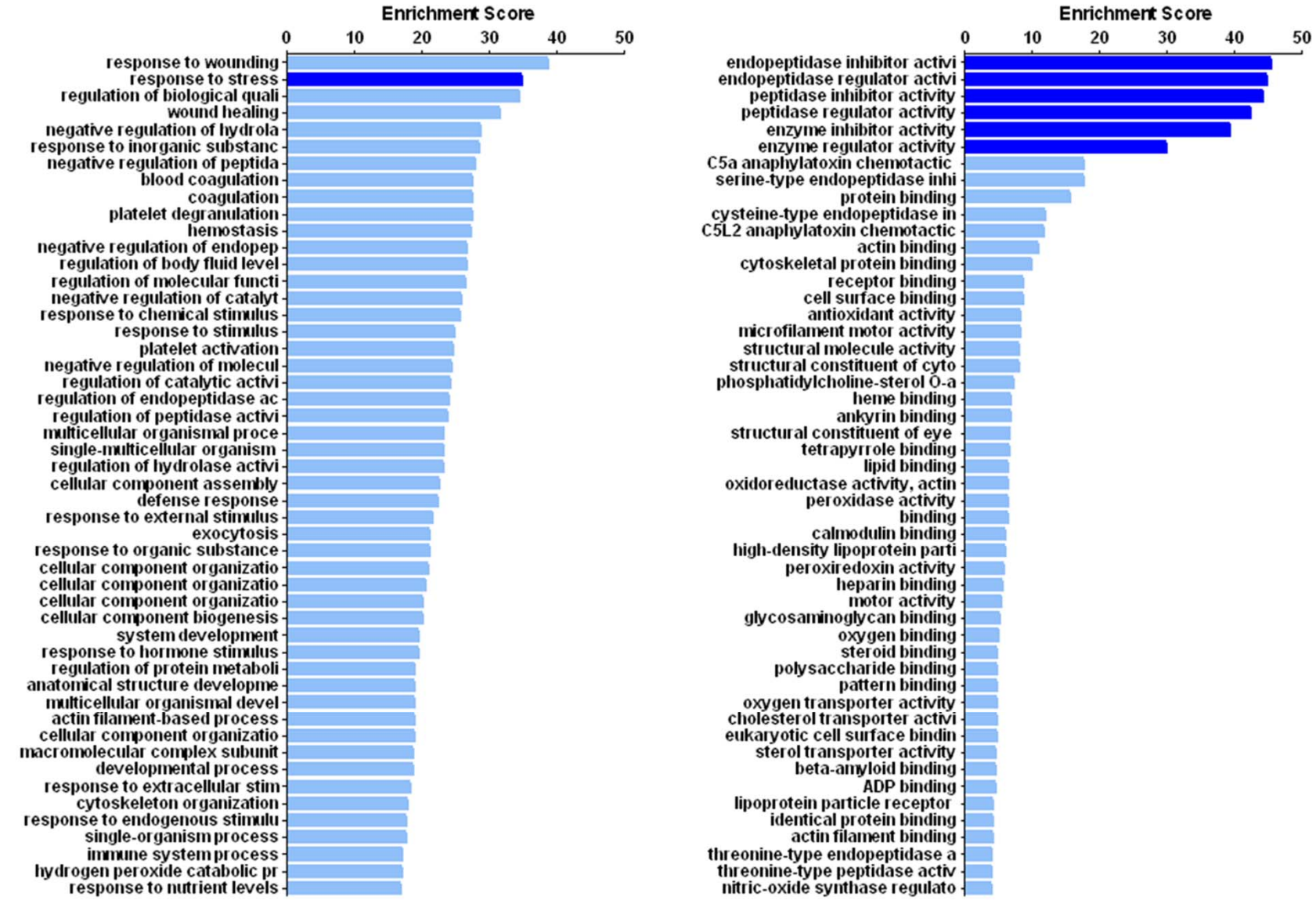
Supplementary Table 2. Interactions Between AS and AC Datasets *

Regulation	Regulation	Actual	R	n	N	Expected	Ratio	p-value	z-score
AS_down	AC_up	427	6230	10153	260950	242.4	1.762	6.109E-29	12.24
AS_up	AC_up	425	6448	10106	260950	249.7	1.702	6.982E-26	11.46
AC_down	AC_up	414	6557	10383	260950	260.9	1.587	7.004E-20	9.797
AS_up	AS_down	166	3750	6093	260950	87.56	1.896	1.461E-14	8.544
AS_up	AC_down	127	3800	5601	260950	81.56	1.557	1.209E-06	5.123
AS_down	AC_down	38	1928	3027	260950	22.36	1.699	1.444E-03	3.338

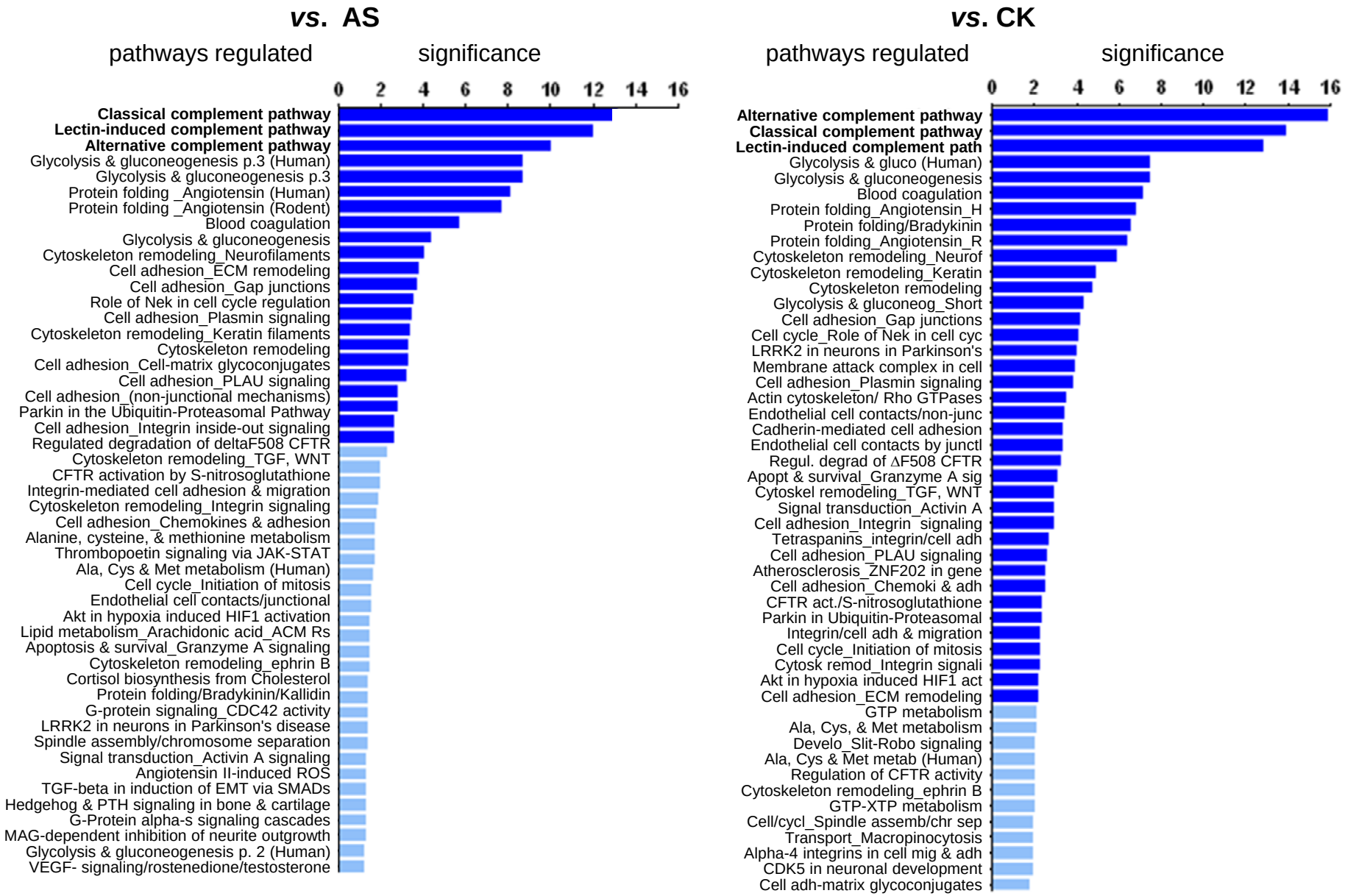
* All overconnected and ordered based on p-values from smallest to largest.

Actual	number of links between active data files
n	number of incoming links between active data files
R	number of outgoing links between active data files
N	total number of links in the complete database or background list
Expected	mean value for hypergeometric distribution (n*R/N)
Ratio	connectivity ratio (Actual/Expected)
z-score	z-score ((Actual-Expected)/sqrt(variance))
p-value	probability to have the given value of Actual or higher (or lower for negative z-score)

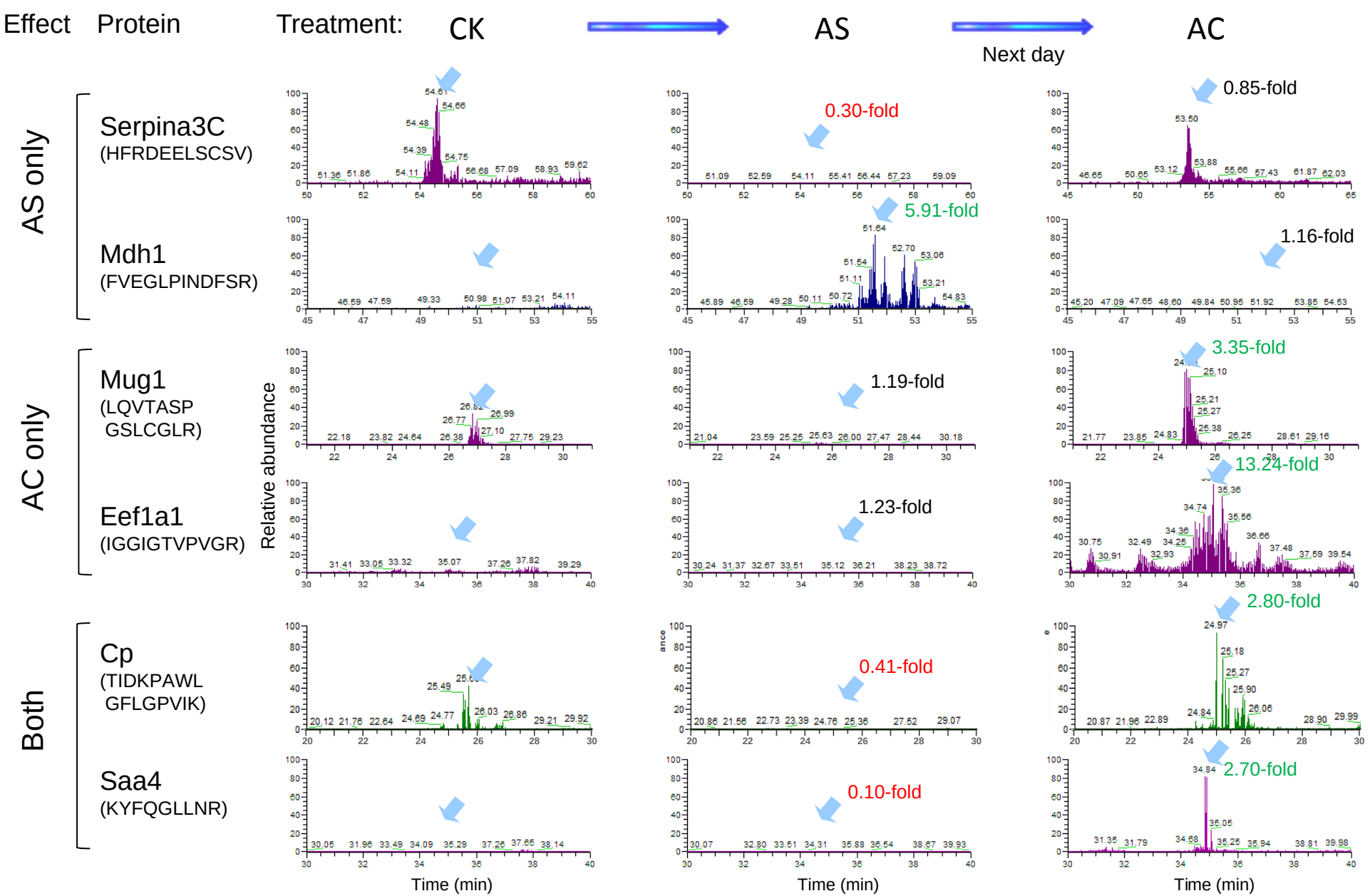
- (unspecified)
- (unspecified) (2)
- (unspecified) (3)
- (unspecified) (4)
- (unspecified) (5)
- (unspecified) (6)
- (unspecified) (7)
- (unspecified) (8)
- (unspecified) (9)
- (unspecified) (10)
- (unspecified) (11)
- (unspecified) (12)
- (unspecified) (13)
- (unspecified) (14)
- (unspecified)



Supplementary Figure 2. Top 50 processes (a) or molecular functions (b) present in naïve ICV CSF. Enrichment score, -Log_{10}(P-value); Dark blue bar, related to conditions in this study.



Supplementary Figure 3. Top 50 CSF pathways upregulated by AC by comparing to AS *(left)* or to CK (*right*). Significance, -Log_{10}(P-value); Bold, complement pathways; lightblue bar, insignificant pathways.



Supplementary Figure 4. Chromatographic examples of selective effects of AS, (upper two), AC (middle two) or both (bottom two) on six CSF proteins, comparing to CK in mice. Treatments are indicated on Top: left panels for CK, middle ones for AS and right, AC. Parenthesis, a representative peptide captured by MS analysis and its quantification shown in the three graphs on the right ; skyblue arrows, peptide's position. Red fold, decrease; green, increase and black, no change comparing to CK, based on overall PepHits (not shown here) of the protein.