

Table S1. All proteins differentially expressed in the rat lenses incubated with 35.0°C and 37.5°C.

ID	Accession number	Description	Number of amino acids	Spectral counting		
				37.5°C	35.0°C	Fold change, Rsc
K1C27_RAT	Q6IFW8	Keratin, type I cytoskeletal 27	449	5	0	3.134039
LPAR3_RAT	Q8K5E0	Lysophosphatidic acid receptor 3	354	2	0	2.188507
PER1_RAT	Q8CHI5	Period circadian protein homolog 1	1293	2	0	2.188507
VPS4A_RAT	Q793F9	Vacuolar protein sorting-associated protein 4A	437	2	0	2.188507
PLCD4_RAT	Q62711	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase delta-4	772	2	0	2.188507
APC_RAT	P25054	Adenomatous polyposis coli protein	2842	1	0	1.657289
KAD8_RAT	Q68FP8	Adenylate kinase 8	479	1	0	1.657289
AOXC_RAT	Q5QE80	Aldehyde oxidase 3	1334	1	0	1.657289
ALD1_RAT	Q5RJP0	Aldo-keto reductase family 1 member B7	316	1	0	1.657289
APC5_RAT	A1L1K3	Anaphase-promoting complex subunit 5	727	1	0	1.657289
RECQ5_RAT	D4ACP5	ATP-dependent DNA helicase Q5	973	1	0	1.657289
CELR2_RAT	Q9QYP2	Cadherin EGF LAG seven-pass G-type receptor 2 (Fragment)	2144	1	0	1.657289
CADH6_RAT	P55280	Cadherin-6	789	1	0	1.657289
CE295_RAT	A4L9P8	Centrosomal protein of 295 kDa	2395	1	0	1.657289
CDYL_RAT	Q6AYK9	Chromodomain Y-like protein	589	1	0	1.657289
DZ11L_RAT	Q5XIA0	Cilium assembly protein DZIP1L	776	1	0	1.657289
CDK5_RAT	Q03114	Cyclin-dependent-like kinase 5	292	1	0	1.657289
DEND_RAT	P50617	Dendrin	707	1	0	1.657289
MCM8_RAT	D3ZVK1	DNA helicase MCM8	830	1	0	1.657289
RED2_RAT	P97616	Double-stranded RNA-specific editase B2	746	1	0	1.657289
EF1A2_RAT	P62632	Elongation factor 1- $\alpha$ 2	463	1	0	1.657289
EMC10_RAT	Q6AYH6	ER membrane protein complex subunit 10	258	1	0	1.657289
ECHD1_RAT	Q6AYG5	Ethylmalonyl-CoA decarboxylase	299	1	0	1.657289
GBRB3_RAT	P63079	$\gamma$ -aminobutyric acid receptor subunit $\beta$ -3	473	1	0	1.657289
GBRR2_RAT	P47742	$\gamma$ -aminobutyric acid receptor subunit rho-2	465	1	0	1.657289
GSTO1_RAT	Q9Z339	Glutathione S-transferase omega-1	241	1	0	1.657289
G3PT_RAT	Q9ESV6	Glyceraldehyde-3-phosphate dehydrogenase, testis-specific	432	1	0	1.657289
KCNJ3_RAT	P63251	G protein-activated inward rectifier potassium channel 1	501	1	0	1.657289
HNRPU_RAT	Q6IMY8	Heterogeneous nuclear ribonucleoprotein U	798	1	0	1.657289
IRGM_RAT	Q6AYC2	Immunity-related GTPase family M protein	411	1	0	1.657289
UBP54_RAT	Q6IE24	Inactive ubiquitin carboxyl-terminal hydrolase 54	1588	1	0	1.657289
IP3KB_RAT	P42335	Inositol-trisphosphate 3-kinase B	934	1	0	1.657289
IDHG1_RAT	P41565	Isocitrate dehydrogenase [NAD] subunit $\gamma$ 1, mitochondrial	393	1	0	1.657289

K1C19_RAT	Q63279	Keratin, type I cytoskeletal 19	403	1	0	1.657289
KRBBB_RAT	Q5NKN4	Killer cell lectin-like receptor subfamily B member 1B allele B	223	1	0	1.657289
MPP4_RAT	Q9QYH1	MAGUK p55 subfamily member 4	441	1	0	1.657289
MYCD_RAT	Q8R517	Myocardin	938	1	0	1.657289
NPW_RAT	Q8K1M5	Neuropeptide W	185	1	0	1.657289
NU153_RAT	P49791	Nuclear pore complex protein Nup153	1468	1	0	1.657289
NUMBL_RAT	A1L1I3	Numb-like protein	614	1	0	1.657289
PRAX_RAT	Q63425	Periaxin	1383	1	0	1.657289
SYPM_RAT	Q5M7W7	Probable proline--tRNA ligase, mitochondrial	475	1	0	1.657289
LYOX_RAT	P16636	Protein-lysine 6-oxidase	411	1	0	1.657289
KPYM_RAT	P11980	Pyruvate kinase PKM	531	1	0	1.657289
RSLBA_RAT	Q6IMA3	Ras-like protein family member 11A	242	1	0	1.657289
ALKB5_RAT	D3ZKD3	RNA demethylase ALKBH5	395	1	0	1.657289
SLMAP_RAT	POC219	Sarcolemmal membrane-associated protein	858	1	0	1.657289
SEBP2_RAT	Q9QX72	Selenocysteine insertion sequence-binding protein 2	846	1	0	1.657289
SH21A_RAT	B2RZ59	SH2 domain-containing protein 1A	126	1	0	1.657289
SFXN1_RAT	Q63965	Sideroflexin-1	322	1	0	1.657289
NTCP5_RAT	Q4JLT5	Sodium/bile acid cotransporter 5	434	1	0	1.657289
SPE39_RAT	Q5PQN6	Spermatogenesis-defective protein 39 homolog	460	1	0	1.657289
TEP1_RAT	O08653	Telomerase protein component 1	2629	1	0	1.657289
TGFR1_RAT	P80204	TGF- $\beta$ receptor type-1	501	1	0	1.657289
UBP21_RAT	B2GUX4	Ubiquitin carboxyl-terminal hydrolase 21	565	1	0	1.657289
SNF8_RAT	Q5RK19	Vacuolar-sorting protein SNF8	258	1	0	1.657289
ZHX3_RAT	Q80Z36	Zinc fingers and homeoboxes protein 3	951	1	0	1.657289
K1C14_RAT	Q61FV1	Keratin, type I cytoskeletal 14	485	6	3	1.582128
CLCN2_RAT	P35525	Chloride channel protein 2	907	4	2	1.502479
K2C1B_RAT	Q61G01	Keratin, type II cytoskeletal 1b	519	4	2	1.502479
ACNT2_RAT	Q5FVR5	Acyl-coenzyme A amino acid N-acyltransferase 2	418	2	1	1.340108
UCHL1_RAT	Q00981	Ubiquitin carboxyl-terminal hydrolase isozyme L1	223	3	2	1.196919
K2C1_RAT	Q61MF3	Keratin, type II cytoskeletal 1	625	15	13	1.003428
K2C73_RAT	Q61G03	Keratin, type II cytoskeletal 73	553	7	6	0.997522
K1C10_RAT	Q61FW6	Keratin, type I cytoskeletal 10	526	9	9	0.811314
MIP_RAT	P09011	Lens fiber major intrinsic protein (Fragment)	261	2	2	0.809191
CPT1B_RAT	Q63704	Carnitine O-palmitoyltransferase 1, muscle isoform	772	1	1	0.808889
EGFLA_RAT	B4F785	Pikachurin	1005	1	1	0.808889
U520_RAT	F1LNJ2	U5 small nuclear ribonucleoprotein 200 kDa helicase	2139	1	1	0.808889
PLCB1_RAT	P10687	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase $\beta$ -1	1216	1	1	0.808889
ACTA_RAT	P62738	Actin, aortic smooth muscle	377	7	9	0.496743

CRGD_RAT	P10067	$\gamma$ -crystallin D	174	215	285	0.444557
K1C13_RAT	Q61FV4	Keratin, type I cytoskeletal 13	438	2	3	0.421766
K2C4_RAT	Q61G00	Keratin, type II cytoskeletal 4	536	2	3	0.421766
ROCK2_RAT	Q62868	Rho-associated protein kinase 2	1388	2	3	0.421766
CRBA1_RAT	P14881	$\beta$ -crystallin A3	215	106	142	0.409417
CRGB_RAT	P10066	$\gamma$ -crystallin B	175	160	232	0.296889
AXIN1_RAT	O70239	Axin-1	827	1	2	0.277972
MYADM_RAT	Q6VBQ5	Myeloid-associated differentiation marker	318	1	2	0.277972
TCPB_RAT	Q5XIM9	T-complex protein 1 subunit $\beta$	535	1	2	0.277972
CRGE_RAT	P02528	$\gamma$ -crystallin E	174	174	267	0.210914
CRGF_RAT	P10068	$\gamma$ -crystallin F	174	181	281	0.193326
CRBB1_RAT	P02523	$\beta$ -crystallin B1	250	146	232	0.155205
LUZP1_RAT	Q9ESV1	Leucine zipper protein 1	1051	2	4	0.116509
CRYAB_RAT	P23928	$\alpha$ -crystallin B chain	175	87	149	0.042308
PPIA_RAT	P10111	Peptidyl-prolyl cis-trans isomerase A	164	3	6	0.037768
TBB2A_RAT	P85108	Tubulin $\beta$ -2A chain	445	3	6	0.037768
CRYAA_RAT	P24623	$\alpha$ -crystallin A chain	196	259	445	0.034601
CRGA_RAT	P10065	$\gamma$ -crystallin A	174	137	239	0.011741
CRGC_RAT	P02529	$\gamma$ -crystallin C	174	150	266	- 0.014090
AVIL_RAT	Q9WU06	Advillin	819	0	1	- 0.039812
AK1CL_RAT	Q6AYQ2	Aldo-keto reductase family 1 member C21	318	0	1	- 0.039812
LALBA_RAT	P00714	$\alpha$ -lactalbumin	159	0	1	- 0.039812
AOFB_RAT	P19643	Amine oxidase [flavin-containing] B	520	0	1	- 0.039812
ANKS3_RAT	Q5M9H0	Ankyrin repeat and SAM domain-containing protein 3	663	0	1	- 0.039812
CAPR1_RAT	Q5M9G3	Caprin-1	707	0	1	- 0.039812
CARF_RAT	Q5U2X0	CDKN2A-interacting protein	570	0	1	- 0.039812
CCD33_RAT	Q5XIR4	Coiled-coil domain-containing protein 33	775	0	1	- 0.039812
DESM_RAT	P48675	Desmin	469	0	1	- 0.039812
SMBP2_RAT	Q9EQN5	DNA-binding protein SMUBP-2	988	0	1	- 0.039812
DYH5_RAT	M0R8U1	Dynein axonemal heavy chain 5 (Fragment)	3470	0	1	- 0.039812
DRC1_RAT	Q5XI65	Dynein regulatory complex protein 1	754	0	1	- 0.039812
DRP2_RAT	Q9EPA0	Dystrophin-related protein 2	957	0	1	- 0.039812
ERMP1_RAT	Q6UPR8	Endoplasmic reticulum metalloproteinase 1	898	0	1	- 0.039812
EPHB6_RAT	P0C0K7	Ephrin type-B receptor 6	1013	0	1	- 0.039812
MARHB_RAT	A6P320	E3 ubiquitin-protein ligase MARCHF11	398	0	1	- 0.039812
RN181_RAT	Q6AXU4	E3 ubiquitin-protein ligase RNF181	165	0	1	- 0.039812
TTC3_RAT	D3ZSP7	E3 ubiquitin-protein ligase TTC3	2000	0	1	- 0.039812
LEG1_RAT	P11762	Galectin-1	135	0	1	- 0.039812

LG3BP_RAT	O70513	Galectin-3-binding protein	574	0	1	- 0.039812
CXA8_RAT	Q8K4Q9	Gap junction $\alpha$ -8 protein	440	0	1	- 0.039812
GFPT1_RAT	P82808	Glutamine--fructose-6-phosphate aminotransferase [isomerizing] 1	681	0	1	- 0.039812
H2AZ_RAT	P0C0S7	Histone H2A.Z	128	0	1	- 0.039812
HOME2_RAT	O88801	Homer protein homolog 2	354	0	1	- 0.039812
ITPR3_RAT	Q63269	Inositol 1,4,5-trisphosphate receptor type 3	2670	0	1	- 0.039812
IF172_RAT	Q9JKU3	Intraflagellar transport protein 172 homolog	1749	0	1	- 0.039812
LMBD1_RAT	Q6AZ61	Lysosomal cobalamin transport escort protein LMBD1	537	0	1	- 0.039812
S2542_RAT	P0C546	Mitochondrial coenzyme A transporter SLC25A42	318	0	1	- 0.039812
MYT1L_RAT	P70475	Myelin transcription factor 1-like protein	1187	0	1	- 0.039812
MYH10_RAT	Q9JLT0	Myosin-10	1976	0	1	- 0.039812
NETR_RAT	G3V801	Neurotrypsin	761	0	1	- 0.039812
TPR_RAT	F1MA98	Nucleoprotein TPR	2360	0	1	- 0.039812
OTOF_RAT	Q9ERC5	Otoferlin	1993	0	1	- 0.039812
PDZD2_RAT	Q9QZR8	PDZ domain-containing protein 2	2766	0	1	- 0.039812
PIWL4_RAT	Q4G033	Piwi-like protein 4	848	0	1	- 0.039812
PLRG1_RAT	Q9WUC8	Pleiotropic regulator 1	514	0	1	- 0.039812
PROF1_RAT	P62963	Profilin-1	140	0	1	- 0.039812
PCCB_RAT	P07633	Propionyl-CoA carboxylase $\beta$ chain, mitochondrial	541	0	1	- 0.039812
KPCZ_RAT	P09217	Protein kinase C zeta type	592	0	1	- 0.039812
PAR4_RAT	Q920E0	Proteinase-activated receptor 4	395	0	1	- 0.039812
TTL10_RAT	Q5XI57	Protein polyglycyclase TTL10	679	0	1	- 0.039812
MYRIP_RAT	Q7TNY7	Rab effector MyRIP	856	0	1	- 0.039812
RIPL1_RAT	D3ZUQ0	RILP-like protein 1	406	0	1	- 0.039812
PP2AB_RAT	P62716	Serine/threonine-protein phosphatase 2A catalytic subunit $\beta$ isoform	309	0	1	- 0.039812
SPB10_RAT	Q8K3K4	Serpin B10	397	0	1	- 0.039812
S4A7_RAT	Q9R1N3	Sodium bicarbonate cotransporter 3	1218	0	1	- 0.039812
SYNJ1_RAT	Q62910	Synaptojanin-1	1574	0	1	- 0.039812
SNPH_RAT	B5DF41	Syntaphilin	504	0	1	- 0.039812
CF136_RAT	Q6MG12	Uncharacterized protein C6orf136 homolog	172	0	1	- 0.039812
XIRP2_RAT	Q71LX6	Xin actin-binding repeat-containing protein 2	3302	0	1	- 0.039812
ZEB1_RAT	Q62947	Zinc finger E-box-binding homeobox 1	1109	0	1	- 0.039812
ZFY26_RAT	D4A8G9	Zinc finger FYVE domain-containing protein 26	2542	0	1	- 0.039812
ZHX2_RAT	Q80VX4	Zinc fingers and homeoboxes protein 2	836	0	1	- 0.039812
PSMD2_RAT	Q4FZT9	26S proteasome non-ATPase regulatory subunit 2	908	0	1	- 0.039812
GRIFN_RAT	O88644	Grifin	144	11	21	- 0.053138
PGK1_RAT	P16617	Phosphoglycerate kinase 1	417	1	3	- 0.109454
MY18A_RAT	D3ZFD0	Unconventional myosin-XVIIIa	2044	1	3	- 0.109454

CRGN_RAT	D3ZEG1	$\gamma$ -crystallin N	183	36	74	- 0.210350
CRYGS_RAT	P0C5E9	$\gamma$ -crystallin S	178	9	21	- 0.311711
CRBB2_RAT	P062697	$\beta$ -crystallin B2	205	69	173	- 0.523858
GFAP_RAT	P47819	Glial fibrillary acidic protein	430	2	7	- 0.536776
CRBB3_RAT	P02524	$\beta$ -crystallin B3	211	108	271	- 0.543862
KAD1_RAT	P39069	Adenylate kinase isoenzyme 1	194	0	2	- 0.570729
ADCY5_RAT	Q04400	Adenylate cyclase type 5	1262	0	2	- 0.570729
ENOB_RAT	P15429	$\beta$ -enolase	434	0	2	- 0.570729
CTRO_RAT	E9PSL7	Citron $\rho$ -interacting kinase	2055	0	2	- 0.570729
COPG2_RAT	D4ABY2	Coatomer subunit $\gamma$ -2	715	0	2	- 0.570729
DRC4_RAT	Q499U4	Dynein regulatory complex subunit 4	478	0	2	- 0.570729
EF2_RAT	P05197	Elongation factor 2	858	0	2	- 0.570729
UBR4_RAT	Q2TL32	E3 ubiquitin-protein ligase UBR4	5194	0	2	- 0.570729
G3P_RAT	P04797	Glyceraldehyde-3-phosphate dehydrogenase	333	0	2	- 0.570729
IMA6_RAT	Q56R16	Importin subunit $\alpha$ -6	539	0	2	- 0.570729
K1C12_RAT	Q6IFW5	Keratin, type I cytoskeletal 12	456	0	2	- 0.570729
K2C8_RAT	Q10758	Keratin, type II cytoskeletal 8	483	0	2	- 0.570729
NOCT_RAT	Q9ET55	Nocturnin	428	0	2	- 0.570729
TRI72_RAT	A0JPQ4	Tripartite motif-containing protein 72	477	0	2	- 0.570729
IOD2_RAT	P70551	Type II iodothyronine deiodinase	266	0	2	- 0.570729
ZMY10_RAT	Q6AXZ5	Zinc finger MYND domain-containing protein 10	440	0	2	- 0.570729
TRY1_RAT	P00762	Serine protease 1	246	11	31	- 0.592681
CRBA4_RAT	P56374	$\beta$ -crystallin A4	196	30	83	- 0.634711
K2C6A_RAT	Q4FZU2	Keratin, type II cytoskeletal 6A	552	2	9	- 0.850739
BFSP2_RAT	D3ZER2	Phakinin	416	2	9	- 0.850739
ALDR_RAT	P07943	Aldo-keto reductase family 1 member B1	316	0	3	- 0.958155
EF1A1_RAT	P62630	Elongation factor 1- $\alpha$ 1	462	0	3	- 0.958155
HSPB1_RAT	P42930	Heat shock protein $\beta$ -1	206	0	3	- 0.958155
K1C25_RAT	Q6IFX0	Keratin, type I cytoskeletal 25	446	0	3	- 0.958155
MITD1_RAT	Q510J5	MIT domain-containing protein 1	249	0	3	- 0.958155
S10A4_RAT	P05942	Protein S100-A4	101	0	3	- 0.958155
TBA1A_RAT	P68370	Tubulin $\alpha$ -1A chain	451	0	3	- 0.958155
K1C17_RAT	Q6IFU8	Keratin, type I cytoskeletal 17	433	0	4	- 1.263412
BFSP1_RAT	Q02435	Filensin (Fragment)	617	3	19	- 1.449344
K2C5_RAT	Q6P6Q2	Keratin, type II cytoskeletal 5	576	2	15	- 1.517975
TBB3_RAT	Q4QRB4	Tubulin $\beta$ -3 chain	450	0	5	- 1.515353
K1C15_RAT	Q6IFV3	Keratin, type I cytoskeletal 15	447	0	7	- 1.916696
K2C7_RAT	Q6IG12	Keratin, type II cytoskeletal 7	457	0	7	- 1.916696

TBB5_RAT	P69897	Tubulin $\beta$ -5 chain	444	0	8	- 2.082158
VIME_RAT	P31000	Vimentin	466	0	11	- 2.488624
ACTC_RAT	P68035	Actin, $\alpha$ cardiac muscle 1	377	0	13	- 2.707610
FABP5_RAT	P55053	Fatty acid-binding protein 5	135	1	39	- 3.367463
ACTG_RAT	P63259	Actin, cytoplasmic 2	375	0	26	- 3.648159

Rsc, log<sub>2</sub>-transformed ratio of protein abundances.