

RT² Profiler™ PCR Array:

Mouse Heat Shock Proteins

Catalog Number

PAMM-076A

PAMM-076C

PAMM-076D

PAMM-076E

PAMM-076F

PAMM-076G

For Real-Time Instruments:

ABI Standard Blocks; Bio-Rad iCycler, MyiQ, and (MJ Research) Chromo 4 and Stratagene Mx3005p, Mx3000p

ABI 7500 and 7900HT FAST 96-Well Blocks, ABI StepOnePlus

Bio-Rad (MJ Research) Opticon and Opticon 2, Stratagene Mx4000

ABI 7900HT 384-Well Block

Roche LightCycler 480 96-well Blocks

Roche LightCycler 480 384-well Blocks

Description

The Mouse Heat Shock Proteins RT² Profiler PCR Array profiles the expression of 84 Heat Shock Protein genes that regulate protein folding. Heat shock proteins (HSPs, or molecular chaperones) are important components of cellular networks. HSPs can either aid in the folding and maintenance of newly translated proteins or they can lead to the degradation of misfolded and destabilized proteins. Included on this PCR Array are HSP90 (81 to 99 kD), HSP70 (65 to 80 kD), HSP60 (55 to 64 kD), HSP40 (35 to 54 kD), small HSPs (≤34 kD) and other chaperone cofactors that are directly involved in the response to unfolded/misfolded proteins or that are involved in protein folding in general.

Using real-time PCR, you can easily and reliably analyze expression of a focused panel of heat shock proteins and chaperones with this array.

Functional Gene Groupings

HSP90 Family Members: Hsp90aa1, Hsp90ab1, Hsp90b1.

HSP70 Family Members: Hspa14, Hspa1a, Hspa1b, Hspa1l, Hspa2, Hspa4, Hspa4l, Hspa5, Hspa8, Hspa9.

HSP60 Family Members: Hspd1.

HSP40 Family Members: 4930461P20Rik, Dnaja1, Dnaja2, Dnaja3, Dnaja4, Dnajb1, Dnajb10, Dnajb11, Dnajb12, Dnajb13, Dnajb14, Dnajb5, Dnajb6, Dnajb7, Dnajb8, Dnajb9, Dnajc1, Dnajc10, Dnajc11, Dnajc12, Dnajc13, Dnajc14, Dnajc15, Dnajc16, Dnajc17, Dnajc18, Dnajc19, Dnajc3, Dnajc4, Dnajc5, Dnajc5b, Dnajc5g, Dnajc6, Dnajc7, Dnajc8, Dnajc9, Serpinh1.

Small HSPs: Hspb1, Hspb2, Hspb3, Hspb6, Hspb7, Hspb8, Hspe1.

Other Regulators of Protein Folding: Atf6, Bag1, Bag2, Bag3, Bag4, Bag5, Cabc1, Ccs, Cct2, Cct3, Cct4, Cct5, Cct6a, Cct6b, Cct7, Cryaa, Cryab, Hsf1, Hsf2, Hsf4, Hsp110, Pfdn1, Pfdn2, Sil1, Tcp1, Tor1a.

Storage Conditions

Please check the kit components immediately after you receive this package. We are only responsible for missing items reported within two (2) business days of receipt.

Storage Conditions: PCR Arrays are shipped at ambient temperature. Keep plates at -20 °C for long-term storage.

NOTE: Be sure that you have the correct PCR Array format for your instrument before starting the experiment.

References

1. Bukau B, Horwich AL. 1998. The Hsp70 and Hsp60 Chaperone Machines. *Cell* 92: 351-66
2. Calderwood SK, Khaleque MA, Sawyer DB, Ciocca DR. 2006. Heat shock proteins in cancer: chaperones of tumorigenesis. *Trends in Biochemical Sciences* 31: 164-72
3. Macario AJL, de Macario EC. 2005. Sick Chaperones, Cellular Stress, and Disease. *N Engl J Med* 353: 1489-501
4. Nardai G, Vegh EM, Prohaszka Z, Csermely P. 2006. Chaperone-related immune dysfunction: an emergent property of distorted chaperone networks. *Trends in Immunology* 27: 74-9
5. Soti C, Pal C, Papp B, Csermely P. 2005. Molecular chaperones as regulatory elements of cellular networks. *Current Opinion in Cell Biology* 17: 210-5
6. Sreedhar AS, Csermely P. 2004. Heat shock proteins in the regulation of apoptosis: new strategies in tumor therapy: A comprehensive review. *Pharmacology & Therapeutics* 101: 227-57

Product Specification Sheet

Array Layout:

Mouse Heat Shock Proteins RT² Profiler™ PCR Array

	1	2	3	4	5	6	7	8	9	10	11	12
A	4930461P20	Atf6	Bag1	Bag2	Bag3	Bag4	Bag5	Cabc1	Ccs	Cct2	Cct3	Cct4
B	Cct5	Cct6a	Cct6b	Cct7	Cryaa	Cryab	Dnaja1	Dnaja2	Dnaja3	Dnaja4	Dnajb1	Dnajb10
C	Dnajb11	Dnajb12	Dnajb13	Dnajb14	Dnajb5	Dnajb6	Dnajb7	Dnajb8	Dnajb9	Dnajc1	Dnajc10	Dnajc11
D	Dnajc12	Dnajc13	Dnajc14	Dnajc15	Dnajc16	Dnajc17	Dnajc18	Dnajc19	Dnajc3	Dnajc4	Dnajc5	Dnajc5b
E	Dnajc5g	Dnajc6	Dnajc7	Dnajc8	Dnajc9	Hsf1	Hsf2	Hsf4	Hsp110	Hsp90aa1	Hsp90ab1	Hsp90b1
F	Hspa14	Hspa1a	Hspa1b	Hspa1l	Hspa2	Hspa4	Hspa4l	Hspa5	Hspa8	Hspa9	Hspb1	Hspb2
G	Hspb3	Hspb6	Hspb7	Hspb8	Hspd1	Hspe1	Pfdn1	Pfdn2	Serpinh1	Sil1	Tcp1	Tor1a
H	Gusb	Hprt1	Hspcb	Gapdh	Actb	MGDC	RTC	RTC	RTC	PPC	PPC	PPC

Gene Table

Position	UniGene	GenBank	Symbol	Description
A01	Mm.297862	XM_127961	4930461P20Rik	RIKEN cDNA 4930461P20 gene
A02	Mm.377046	XM_888686	Atf6	Activating transcription factor 6
A03	Mm.688	NM_009736	Bag1	Bcl2-associated athanogene 1
A04	Mm.247037	NM_145392	Bag2	Bcl2-associated athanogene 2
A05	Mm.84073	NM_013863	Bag3	Bcl2-associated athanogene 3
A06	Mm.118400	NM_026121	Bag4	BCL2-associated athanogene 4
A07	Mm.44239	NM_027404	Bag5	BCL2-associated athanogene 5
A08	Mm.38330	NM_023341	Cabc1	Chaperone, ABC1 activity of bc1 complex like (S. pombe)
A09	Mm.434411	NM_016892	Ccs	Copper chaperone for superoxide dismutase
A10	Mm.247788	NM_007636	Cct2	Chaperonin subunit 2 (beta)
A11	Mm.256034	NM_009836	Cct3	Chaperonin subunit 3 (gamma)
A12	Mm.296985	NM_009837	Cct4	Chaperonin subunit 4 (delta)
B01	Mm.282158	NM_007637	Cct5	Chaperonin subunit 5 (epsilon)
B02	Mm.153159	NM_009838	Cct6a	Chaperonin subunit 6a (zeta)
B03	Mm.4126	NM_009839	Cct6b	Chaperonin subunit 6b (zeta)
B04	Mm.289900	NM_007638	Cct7	Chaperonin subunit 7 (eta)
B05	Mm.1228	NM_013501	Cryaa	Crystallin, alpha A
B06	Mm.178	NM_009964	Cryab	Crystallin, alpha B
B07	Mm.27897	NM_008298	Dnaja1	DnaJ (Hsp40) homolog, subfamily A, member 1
B08	Mm.279692	NM_019794	Dnaja2	DnaJ (Hsp40) homolog, subfamily A, member 2
B09	Mm.325524	NM_023646	Dnaja3	DnaJ (Hsp40) homolog, subfamily A, member 3
B10	Mm.52319	NM_021422	Dnaja4	DnaJ (Hsp40) homolog, subfamily A, member 4
B11	Mm.282092	NM_018808	Dnajb1	DnaJ (Hsp40) homolog, subfamily B, member 1
B12	Mm.248776	NM_178055	Dnajb10	DnaJ (Hsp40) homolog, subfamily B, member 10
C01	Mm.37516	NM_026400	Dnajb11	DnaJ (Hsp40) homolog, subfamily B, member 11
C02	Mm.103610	NM_019965	Dnajb12	DnaJ (Hsp40) homolog, subfamily B, member 12
C03	Mm.278554	NM_153527	Dnajb13	DnaJ (Hsp40) related, subfamily B, member 13
C04	Mm.256488	XM_131212	Dnajb14	DnaJ (Hsp40) homolog, subfamily B, member 14
C05	Mm.20437	NM_019874	Dnajb5	DnaJ (Hsp40) homolog, subfamily B, member 5
C06	Mm.290110	NM_011847	Dnajb6	DnaJ (Hsp40) homolog, subfamily B, member 6
C07	Mm.87433	NM_021317	Dnajb7	DnaJ (Hsp40) homolog, subfamily B, member 7
C08	Mm.272871	NM_019964	Dnajb8	DnaJ (Hsp40) homolog, subfamily B, member 8
C09	Mm.27432	NM_013760	Dnajb9	DnaJ (Hsp40) homolog, subfamily B, member 9
C10	Mm.246674	NM_007869	Dnajc1	DnaJ (Hsp40) homolog, subfamily C, member 1
C11	Mm.21762	NM_024181	Dnajc10	DnaJ (Hsp40) homolog, subfamily C, member 10
C12	Mm.21353	NM_172704	Dnajc11	DnaJ (Hsp40) homolog, subfamily C, member 11
D01	Mm.32550	NM_013888	Dnajc12	DnaJ (Hsp40) homolog, subfamily C, member 12
D02	Mm.217256	XM_135146	Dnajc13	DnaJ (Hsp40) homolog, subfamily C, member 13
D03	Mm.296915	NM_028873	Dnajc14	DnaJ (Hsp40) homolog, subfamily C, member 14
D04	Mm.248046	NM_025384	Dnajc15	DnaJ (Hsp40) homolog, subfamily C, member 15
D05	Mm.39102	NM_172338	Dnajc16	DnaJ (Hsp40) homolog, subfamily C, member 16
D06	Mm.222241	NM_139139	Dnajc17	DnaJ (Hsp40) homolog, subfamily C, member 17
D07	Mm.354767	NM_029669	Dnajc18	DnaJ (Hsp40) homolog, subfamily C, member 18
D08	Mm.274266	NM_026332	Dnajc19	DnaJ (Hsp40) homolog, subfamily C, member 19
D09	Mm.393376	NM_008929	Dnajc3	DnaJ (Hsp40) homolog, subfamily C, member 3
D10	Mm.10721	NM_020566	Dnajc4	DnaJ (Hsp40) homolog, subfamily C, member 4
D11	Mm.140761	NM_016775	Dnajc5	DnaJ (Hsp40) homolog, subfamily C, member 5
D12	Mm.45615	NM_025489	Dnajc5b	DnaJ (Hsp40) homolog, subfamily C, member 5 beta
E01	Mm.189696	NM_177677	Dnajc5g	DnaJ (Hsp40) homolog, subfamily C, member 5 gamma
E02	Mm.76494	NM_198412	Dnajc6	DnaJ (Hsp40) homolog, subfamily C, member 6

Product Specification Sheet

Position	UniGene	GenBank	Symbol	Description
E03	Mm.258140	NM_019795	Dnajc7	DnaJ (Hsp40) homolog, subfamily C, member 7
E04	Mm.29685	NM_172400	Dnajc8	DnaJ (Hsp40) homolog, subfamily C, member 8
E05	Mm.2871	NM_134081	Dnajc9	DnaJ (Hsp40) homolog, subfamily C, member 9
E06	Mm.347444	NM_008296	Hsf1	Heat shock factor 1
E07	Mm.261395	NM_008297	Hsf2	Heat shock factor 2
E08	Mm.89204	NM_011939	Hsf4	Heat shock transcription factor 4
E09	Mm.270681	NM_013559	Hsp110	Heat shock protein 110
E10	Mm.1843	NM_010480	Hsp90aa1	Heat shock protein 90kDa alpha (cytosolic), class A member 1
E11	Mm.2180	NM_008302	Hsp90ab1	Heat shock protein 90kDa alpha (cytosolic), class B member 1
E12	Mm.87773	NM_011631	Hsp90b1	Heat shock protein 90kDa beta (Grp94), member 1
F01	Mm.89341	NM_015765	Hspa14	Heat shock protein 14
F02	Mm.6388	NM_010479	Hspa1a	Heat shock protein 1A
F03	Mm.372314	NM_010478	Hspa1b	Heat shock protein 1B
F04	Mm.14287	NM_013558	Hspa1l	Heat shock protein 1-like
F05	Mm.296181	NM_008301	Hspa2	Heat shock protein 2
F06	Mm.239865	NM_008300	Hspa4	Heat shock protein 4
F07	Mm.39330	NM_011020	Hspa4l	Heat shock protein 4 like
F08	Mm.430829	NM_022310	Hspa5	Heat shock 70kD protein 5 (glucose-regulated protein)
F09	Mm.336743	NM_031165	Hspa8	Heat shock protein 8
F10	Mm.209419	NM_010481	Hspa9	Heat shock protein 9
F11	Mm.13849	NM_013560	Hspb1	Heat shock protein 1
F12	Mm.1980	NM_024441	Hspb2	Heat shock protein 2
G01	Mm.41410	NM_019960	Hspb3	Heat shock protein 3
G02	Mm.383285	NM_001012401	Hspb6	Heat shock protein, alpha-crystallin-related, B6
G03	Mm.46181	NM_013868	Hspb7	Heat shock protein family, member 7 (cardiovascular)
G04	Mm.21549	NM_030704	Hspb8	Heat shock protein 8
G05	Mm.1777	NM_010477	Hspd1	Heat shock protein 1 (chaperonin)
G06	Mm.215667	NM_008303	Hspe1	Heat shock protein 1 (chaperonin 10)
G07	Mm.30184	NM_026027	Pfdn1	Prefoldin 1
G08	Mm.10756	NM_011070	Pfdn2	Prefoldin 2
G09	Mm.22708	NM_009825	Serpinh1	Serine (or cysteine) peptidase inhibitor, clade H, member 1
G10	Mm.291482	NM_030749	Sil1	Endoplasmic reticulum chaperone SIL1 homolog (S. cerevisiae)
G11	Mm.32019	NM_013686	Tcp1	T-complex protein 1
G12	Mm.154994	NM_144884	Tor1a	Torsin family 1, member A (torsin A)
H01	Mm.371672	NM_010368	Gusb	Glucuronidase, beta
H02	Mm.299381	NM_013556	Hprt1	Hypoxanthine guanine phosphoribosyl transferase 1
H03	Mm.2180	NM_008302	Hspcb	Heat shock protein 1, beta
H04	Mm.333399	NM_008084	Gapdh	Glyceraldehyde-3-phosphate dehydrogenase
H05	Mm.297	NM_007393	Actb	Actin, beta, cytoplasmic
H06	N/A	SA_00106	MGDC	Mouse Genomic DNA Contamination
H07	N/A	SA_00104	RTC	Reverse Transcription Control
H08	N/A	SA_00104	RTC	Reverse Transcription Control
H09	N/A	SA_00104	RTC	Reverse Transcription Control
H10	N/A	SA_00103	PPC	Positive PCR Control
H11	N/A	SA_00103	PPC	Positive PCR Control
H12	N/A	SA_00103	PPC	Positive PCR Control