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Versatile Functions of Heat Shock Factors: It is Not All About Stress

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Table 1. Genome-wide analyses of HSF-driven transcriptional programs

Organism	Tissue/Cell line	Assay	Conditions	Ref.
<i>H. sapiens</i>	HME; BPE; MCF10A	HSF1 ChIP-seq	C, 1 h 42°C	28
	HMLER; BPLER; NCI1703; ZR75-1; SW620; HCT15; HT29; MCF7; NCIH441; SKBR3; NCIH838; BT20; patient-derived breast and colon tumors	HSF1 ChIP-seq	Non-treated	
	HMLER, HSF1 KD HMLER; BPLER, HSF1 KD BPLER; MCF7, HSF1 KD MCF7	DNA-microarray	Non-treated	
	K562	HSF1 ChIP-seq HSF2 ChIP-seq	C, 1 h HS 42°C, cycling and mitotic cells	29
	MCF7	HSF1 ChIP-seq Pol II-ChIP-seq	C, 6 h CHX	184
	M0-91	HSF1 ChIP-seq	C, 6 h RHT, 6 h CHX	103
	HCT116, <i>fbxw7</i> ^{-/-} HCT116	RNA-seq	1 h HS 42°C, 1 h 42°C with 2h rec	
	HCT116, <i>fbxw7</i> ^{-/-} HCT116	HSF1 ChIP-seq	Non-treated	185
	WI 38, BRD4 KD	RNA-seq	C, 4 h HS 42°C	
	PC3, HSF1 KD, HSF2 KD	DNA-microarray	Non-treated	167
<i>M. musculus</i>	MEFs, HSF1 KD, RPA1 KD	DNA microarray	Non-treated	92
	MEFs	HSF1 ChIP-seq CBP ChIP-seq p300 ChIP-seq ATF1 ChIP-seq	C, 30 min HS 42°C	96
	Testis	HSF1 ChIP-chip	Non-treated	186
		HSF2 ChIP-chip	Non-treated	106
	Spermatocytes	HSF1 ChIP-seq HSF2 ChIP-seq	C, 5-20 min HS 38°C and 5-20 min 43°C	107
	MEFs, <i>hsf1</i> ^{-/-} MEFs, <i>hsf1</i> & <i>2</i> ^{-/-} MEFs	Pro-seq	C, 2.5, 12, 60 min HS 42°C	91
	MEFs, <i>hsf1</i> ^{-/-} MEFs	HSF1 ChIP-seq	C, 12, 60 min HS 42°C	
	MEFs, <i>hsf1</i> ^{-/-} MEFs; ESC, <i>hsf1</i> ^{-/-} ESC	RNA-seq	C, 1 h 42°C	117
<i>D. melanogaster</i>	S2, HSF1 KD	HSF ChIP-seq	C, 20 min 36.5°C	27
	S2, HSF1 KD, M1BP1 KD, GAF KD	Pro-seq	C, 20 min HS 37°C	90
<i>C. elegans</i>	L2, young adults	HSF ChIP-seq Pol II ChIP-seq	C, 30 min HS 34°C	30
	L2 Wt, <i>hsf-1</i> ^{-/-} L2, <i>hsf-1</i> & <i>rmSil</i> ^{-/-} L2	RNA-seq	Non-treated	
<i>S. cerevisiae</i>	Wt, nuclear depleted HSF by anchor-away technique	NET-seq	C, 15, 30, 60 min Rapamycin	117
	Wt, nuclear depleted HSF by anchor-away technique	RNA-seq	C, 1 h Rapamycin, 1 h HS 39°C	
	Wt	HSF ChIP-seq	Non-treated	
<i>C. albicans</i>	Wt, tetO-HSP90/hsp90Δ	RNA-seq	C, 10, 30, 60 min HS 42°C	85
	Wt, tetO-HSP90/hsp90Δ	HSF ChIP-seq H3 ChIP-seq Pol II ChIP-seq	C, HS 42°C	

ATF1 – activating transcription factor 1; CBP/p300 – histone acetylase complex; ChIP-seq – chromatin immunoprecipitation-sequencing; CHX – cycloheximide; ESC – embryonic stem cells; GAF – GAGA-associated factor; H3 – Histone H3; HS – heat shock; KD – knock-down; KO – knock-out; L2 – larval stage L2; M1BP1 – motif 1-binding protein; MEFs – mouse embryonic fibroblasts; NET-seq - native elongating transcript sequencing; Pol II – RNA polymerase II; Pro-seq – precision nuclear run-on and sequencing; RHT – Rohinitib; RNA-seq – RNA sequencing