

Table B.1: *Hsp70* sequences used in phylogenetic analyses. *Hsp70* sequences and information regarding their cellular localization and responsiveness to stress are principally from Rhee et al. (2009), Boorstein et al. (1994), Daugaard et al. (2007), and MacRae (2010) as noted, with some additions.

Species	Common name	Localization	^c Stress/ ^d diapause response	^e Amino acid	Reference
<i>Bacillus megaterium Hsp70</i>	Bacteria			P05646	Boorstein et al., 1994
<i>Chlamydomonas reinhardtii Hsp70</i>	Bacteria			AAA23121.1	Boorstein et al., 1994
<i>Culex quinquefasciatus EST</i>	Mosquito	^a Mitochondria		FF223480	
<i>Drosophila melanogaster Hsc5</i>	Fruit fly	^a Bacterial origin	^c Not inducible	NP_523741	
<i>Escherichia coli Hsp70</i>	Bacteria			P04475	Boorstein et al., 1994
<i>Haematobia irritans EST</i>	Horn fly	^a Mitochondria		FD461791	
<i>Homo sapiens Hsp70_9</i>	Human	Mitochondria	^c Not inducible	NP_004125.3	Daugaard et al., 2007
<i>Porphyra purpurea Hsp70</i>	Red algae	Plastid		CAA44160.1	Boorstein et al., 1994
<i>Saccharomyces cerevisiae SSC1</i>	Baker's yeast	Mitochondria		AAA63792.1	Boorstein et al., 1994
<i>Aedes aegypti Hsc70</i>	Mosquito	^a ER	^c Not inducible	ABF18258	Rhee et al., 2009
<i>Bombyx mori Hsp70</i>	Silk moth	^a ER	^c Inducible	BAA32395	Rhee et al., 2009
<i>Drosophila melanogaster Hsp70_3</i>	Fruit fly	^a ER	^c Not inducible	NP_727563	
<i>Homo sapiens Hsp70_5</i>	Human	ER	^c Not inducible	NP_005338	Daugaard et al., 2007
<i>Nasonia vitripennis EST</i>	Parasitic wasp	^a ER		XM_001606413	
<i>Saccharomyces cerevisiae KAR2</i>	Baker's yeast	ER			Boorstein et al., 1994
<i>Schizosaccharomyces pombe</i>	Fission yeast	ER		CAA45762	Boorstein et al., 1994
<i>Spodoptera frugiperda Hsc70</i>	Fall armyworm	^a ER	^c Not inducible	AAN86047	Rhee et al., 2009
<i>Artemia franciscana Hsp70</i>	Brine shrimp	^a Cytoplasm		AAL27404	Rhee et al., 2009
<i>Blomia tropicalis Hsp70</i>	Mite	^a Cytoplasm		AAQ24552	Rhee et al., 2009
<i>Bombyx mori Hsc70</i>	Silk moth	^a Cytoplasm	^c Not inducible	BAB92074	Rhee et al., 2009
<i>Calanus finmarchicus Hsp70 (V)</i>	Marine copepod	^a Cytoplasm		(not in NCBI)	Voznesensky et al. 2004
<i>Chilo suppressalis Hsc70</i>	Striped rice borer	^a Cytoplasm	^c Not inducible	BAE44308	Rhee et al., 2009
<i>Chironomus yoshimatsui Hsc70</i>	Midge larva	^a Cytoplasm	^c Not inducible	AAN14526	Rhee et al., 2009
<i>Crassostrea virginica Hsp70</i>	Eastern oyster	^a Cytoplasm	^c Inducible	CAB89802	Rhee et al., 2009
<i>Drosophila melanogaster Hsc70_4</i>	Fruit fly	^a Cytoplasm	^c Not inducible	NP_524356	
<i>Drosophila melanogaster Hsp701A</i>	Fruit fly	^a Cytoplasm		NP_524063	
<i>Drosophila melanogaster Hsp70AB</i>	Fruit fly	^a Cytoplasm		AAG26896	
<i>Homo sapiens Hsp70_1AB</i>	Human	^a Cytoplasm		NP_005337	
<i>Homo sapiens Hsp70_2</i>	Human	Cytoplasm	^c Not inducible	NP_068814	Daugaard et al., 2007
<i>Homo sapiens Hsp70_6</i>	Human	Cytoplasm	^c Inducible	NP_002146	Daugaard et al., 2007
<i>Ostrea edulis Hsp70</i>	European oyster	^a Cytoplasm	^c Inducible	AAM46635	Rhee et al., 2009
<i>Pachygrapsus mamoratus Hsp70</i>	Marbled crab	^a Cytoplasm		ABA02164	Rhee et al., 2009
<i>Saccharomyces cerevisiae SSA1</i>	Baker's yeast	Cytoplasm		CAA31393	Boorstein et al., 1994
<i>Tetranychus urticae Hsc70</i>	Spider mite	^a Cytoplasm		ABC33921	Rhee et al., 2009

<i>Tigriopus japonicus Hsp70</i>	Marine copepod	^a Cytoplasm	^c Inducible	ABX89903	Rhee et al., 2009
<i>Tribolium castaneum Hsc70</i>	Red flour beetle	^a Cytoplasm	^c Not inducible	XP_973521	Rhee et al., 2009
<i>Calanus finmarchicus 70 EST</i>	Marine copepod		^{b,c} Not inducible	<i>EH666705</i>	Hansen et al., 2008
<i>Caligus clemensi EST</i>	Copepod sea louse			<i>GO396551</i>	
<i>Drosophila melanogaster Hsc70CB</i>	Fruit fly			NP_648687	
<i>Homo sapiens Hsp70_14</i>	Human		^c Not inducible	NP_057383	Wan et al., 2004
<i>Homo sapiens Hsp70_4</i>	Human		^c Not inducible	NP_002145	Kaneko et al., 1997
<i>Lepeophtheirus salmonis EST</i>	Copepod sea louse			FK926374	
<i>Chilo suppressalis Hsc70</i>	Rice stem borer	^a Cytoplasm	^d Constant	BAE44308	MacRae, 2010
<i>Culex pipiens Hsp70</i>	Mosquito	^a Cytoplasm	^d Down	AAX84696.1	MacRae, 2010
<i>Culex pipiens Hsc70</i>	Mosquito	^a Cytoplasm	^d Down	XP_001850527.1	MacRae, 2010
<i>Delia antiqua Hsp70</i>	Onion maggot	^a Cytoplasm	^d Up	AAZ28732.1	MacRae, 2010
<i>Drosophila triauraria Hsp70</i>	Fruit fly	^a Cytoplasm	^d Constant	BAC77410.1	MacRae, 2010
<i>Helicoverpa zea Hsc70</i>	Corn earworm	^a Cytoplasm	^d Constant	ACV32641.1	MacRae, 2010
<i>Helicoverpa zea Hsp70</i>	Corn earworm	^a Cytoplasm	^d Down	ACV32640.1	MacRae, 2010
<i>Leptinotarsa decemlineata Hsp70A</i>	CO potato beetle	^a Cytoplasm	^d Up	AAG01177.2	MacRae, 2010
<i>Leptinotarsa decemlineata Hsp70B</i>	CO potato beetle	^a Cytoplasm	^d Constant	AAG42838.1	MacRae, 2010
<i>Lucilia sericata Hsp70</i>	Blow fly	^a Cytoplasm	^d Constant	BAD12047.1	MacRae, 2010
<i>Megachile rotundata Hsc70</i>	Leafcutter bee	^a Cytoplasm	^d Constant	AAS57865.1	MacRae, 2010
<i>Megachile rotundata Hsp70</i>	Leafcutter bee	^a Cytoplasm	^d Up	AAS57864.1	MacRae, 2010
<i>Omphisa fuscidentalis Hsc70</i>	Bamboo borer	^a Cytoplasm	^d Variable	ABP93403.1	MacRae, 2010
<i>Omphisa fuscidentalis Hsp70</i>	Bamboo borer	^a Cytoplasm	^d Down	ABP93405.1	MacRae, 2010
<i>Sarcophaga crassipalpis Hsc70</i>	Flesh fly	^a Cytoplasm	^d Constant	AAD17996.1	MacRae, 2010
<i>Sarcophaga crassipalpis Hsp70A</i>	Flesh fly	^a Cytoplasm	^d Up	AAD17995.2	MacRae, 2010
<i>Sarcophaga crassipalpis Hsp70B</i>	Flesh fly	^a Cytoplasm	^d Up	ABL06944.1	MacRae, 2010
<i>Sesamia nonagrioides Hsc70</i>	Corn stalk borer	^a Cytoplasm	^d Up	AAZ26452.2	MacRae, 2010
<i>Sesamia nonagrioides Hsp70</i>	Corn stalk borer	^a Cytoplasm	^d Down	ABZ10939.1	MacRae, 2010

^a denotes inferred cellular localization from our phylogenetic analyses

^bHansen et al., 2008 saw modest but insignificant increases of *Hsp70* in response to naphthalene exposure

^c denotes response to stress

^d denotes response to diapause. Diapausing insect species and indicated diapause response are from MacRae, 2010 and internal citations.

^e Accession numbers in italics represent nucleotide sequences