



Figure S1: Representative western blot images for the heterologous antibodies (A) HSP70 (polyclonal rabbit affinity purified; AS05 083A, Agrisera) (B) HSP90 (monoclonal mouse; SMC-107, StressMarq Biosciences) (C) HSP110 (polyclonal rabbit; SPC-195, StressMarq **Biosciences**). **A.** Lanes 1 – 2: school shark white muscle, lanes 3 – 5: 75, 30, 7.5 ng HSP70/72 recombinant rat protein (SPP-758; Enzo Life Sciences), lanes 6 – 14: gummy shark gill tissue, lane 15: school shark white muscle. **B.** Lanes 1 – 4: school shark white muscle, lanes 5 -7: 75, 30, 7.5 ng HSP90 recombinant human protein (SPP-770; Enzo Life Sciences), lanes 8 – 11: school shark white muscle, lanes 12 – 15: gummy shark gill tissue. **C.** Lane 1: MagicMark™ XP protein standard (ThermoFisher Scientific), lanes 2 – 11: school shark white muscle.

Table S1: Whole blood and plasma parameters (mean \pm SEM) in school sharks (*Galeorhinus galeus*), and gummy sharks (*Mustelus antarcticus*) in the time control experiment (72 h at 100% SW).

		Time (h)				Significance (p-value)		
		t = 0	t = 24	t = 48	t = 72	Time x Species	Time	Species
Plasma Osmolality (mmol \cdot kg $^{-1}$)	School	976 \pm 4.5 (10)	957 \pm 10.4 (10)	972 \pm 11.8 (10)	964 \pm 13.7 (4)	0.922	0.101	0.081
	Gummy	992 \pm 2.1 (5)	961 \pm 11.7 (5)	990 \pm 4.1 (5)	985 (2)			
Plasma Potassium (mmol \cdot L $^{-1}$)	School	4.4 \pm 0.18 (10)	4.5 \pm 0.12 (10)	4.86 \pm 0.11 (10)	4.7 \pm 0.27 (4)	0.095	0.005	0.007
	Gummy	4.5 \pm 0.14 (5)	5.5 \pm 0.32 (5)	5.2 \pm 0.37 (5)	5.4 (2)			
Plasma Sodium (mmol \cdot L $^{-1}$)	School	307 \pm 6.1 (10)	312 \pm 6.5 (10)	295 \pm 7.7 (10)	282 \pm 15.0 (4)	0.028	0.122	-
	Gummy	306 \pm 8.7 (5)	325 \pm 15.9 (5)	340 \pm 9.5 (5)	329 (2)		0.061	
Plasma Chloride (mmol \cdot L $^{-1}$)	School	248 \pm 7.6 (10)	252 \pm 3.4 (10)	251 \pm 5.3 (10)	258 \pm 5.4 (4)	0.899	0.639	0.155
	Gummy	241 \pm 5.9 (5)	247 \pm 5.5 (5)	242 \pm 3.4 (5)	244 (2)			
Plasma Urea (mmol \cdot L $^{-1}$)	School	335 \pm 8.9 (10)	370 \pm 9.0 (10)	335 \pm 15.6 (10)	340 \pm 14.0 (4)	0.090	0.780	0.001
	Gummy	305 \pm 9.5 (5)	280 \pm 3.2 (5)	299 \pm 3.5 (5)	268 (2)			
Plasma TMAO (mmol \cdot L $^{-1}$)	School	71 \pm 3.9 (10)	58 \pm 3.6 (10)	55 \pm 2.4 (10)	54 \pm 2.5 (4)	0.079	0.041	0.001
	Gummy	87 \pm 10.6 (4)	75 \pm 10.9 (4)	93 \pm 7.0 (5)	83 (2)			
Plasma Glucose (mmol \cdot L $^{-1}$)	School	7.9 \pm 0.6 (10)	7.8 \pm 0.2 (10)	8.0 \pm 0.2 (10)	7.4 \pm 0.1 (4)	0.073	0.081	0.024
	Gummy	6.0 \pm 0.6 (5)	4.7 \pm 0.5 (5)	4.0 \pm 0.4 (5)	4.3 (2)			
[Hb] (g \cdot L $^{-1}$)	School	33.6 \pm 2.3 (10)	33.4 \pm 2.5 (10)	28.9 \pm 2.9 (5)	26.9 \pm 2.2 (4)	0.730	0.068	0.228
	Gummy	36.6 \pm 4.3 (5)	31.9 \pm 5.1 (5)	28.4 \pm 3.8 (5)	35.3 (2)			
Hct (%)	School	19.1 \pm 1.3 (10)	16.3 \pm 0.8 (10)	17.3 \pm 1.0 (10)	18.3 \pm 1.7 (4)	0.958	0.467	0.118
	Gummy	22.6 \pm 2.5 (5)	20.4 \pm 3.3 (5)	22.2 \pm 2.7 (5)	20.0 (2)			
MCHC (g \cdot L $^{-1}$)	School	176 \pm 3.2 (10)	203 \pm 8.1 (10)	169 \pm 7.2 (5)	149 \pm 10.8 (4)	0.580	0.115	0.793
	Gummy	162 \pm 10.3 (5)	158 \pm 8.8 (5)	127 \pm 7.7 (5)	179 (2)			

- Samples sizes shown in brackets
- Significant p-values are bolded.