

Figure S1. O_2 consumption ($\dot{M}O_2$) across a range of water PO_2 in wild-type (A), *Hiflaa*^{-/-} (B), *Hiflab*^{-/-} (C) and *Hiflaa*^{-/-}*ab*^{-/-} (D) 7 day post fertilization (dpf) larvae reared in normoxia, 12 kPa hypoxia from 4 to 7 dpf and 4 kPa hypoxia from 6 to 7 dpf.

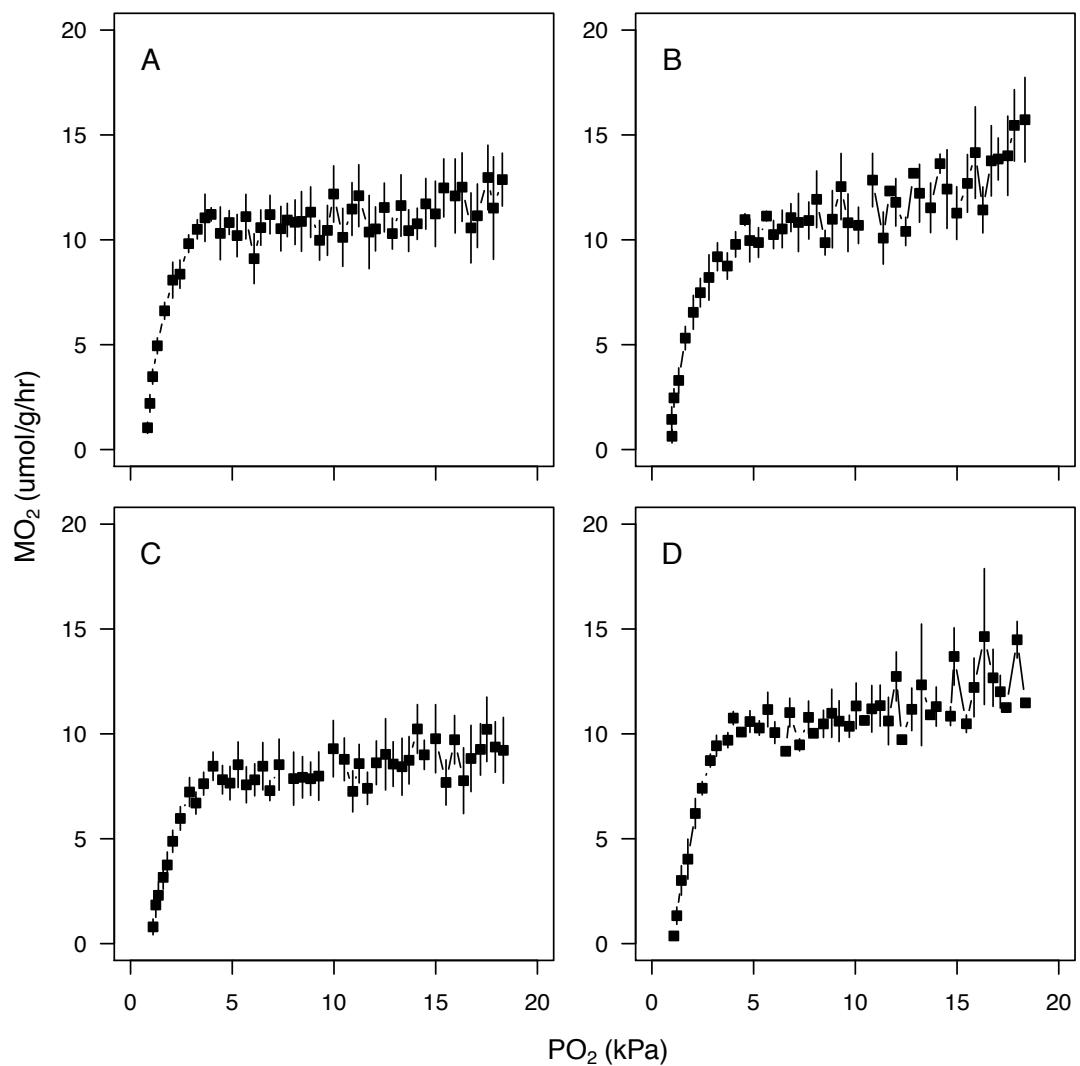


Figure S2. O_2 consumption ($\dot{M}O_2$) across a range of water PO_2 in wild-type (A), *Hiflaa*^{-/-} (B), *Hiflab*^{-/-} (C) and *Hiflaa*^{-/-} *ab*^{-/-} (D) adult zebrafish.

Table S1. Comparison of critical O₂ tension (P_{crit}) calculated using broken stick regression (BSR) and as a linear function of MO₂ measured at low PO₂ (LLO) in wild-type, Hif1aa^{-/-}, Hif1ab^{-/-} and Hif1aa^{-/-}ab^{-/-} in 7 days post fertilization larval zebrafish reared under three different O₂ conditions: normoxia, 12 kPa and 4 kPa.

Genotype	BSR (kPa)			LLO (kPa)		
	Normoxia	12 kPa	4 kPa	Normoxia	12 kPa	4 kPa
Wild-type	4.7±0.2	3.4±0.2	3.2±0.1	3.7±0.1	3.1±0.3	2.8±0.1
Hif1aa ^{-/-}	5.4±0.2	5.0±0.2	3.9±0.1	4.8±0.2	4.3±0.3	3.2±0.1
Hif1ab ^{-/-}	4.6±0.3	3.5±0.1	3.3±0.1	3.8±0.1	2.9±0.2	3.1±0.2
Hif1aa ^{-/-} ab ^{-/-}	5.8±0.1	5.5±0.1	4.1±0.1	4.7±0.2	4.9±0.2	3.8±0.2

There was a significant interaction of rearing condition and genotype on P_{crit} using values calculated by either BSR (see Figure 1 captions for ANOVA statistic summary) or LLO (two-way ANOVA; genotype X rearing condition: F=3.5 , P<0.01, genotype: F=29.7 , P<0.01, rearing condition: F=25.9 , P<0.01; ; n=6-8). Data are presented as means ± sem.

Table S2. Comparison of critical O₂ tension (P_{crit}) calculated using broken stick regression (BSR) and as a linear function of MO₂ measured at low PO₂ (LLO) in wild-type, Hif1aa^{-/-}, Hif1ab^{-/-} and Hif1aa^{-/-}ab^{-/-} in adult zebrafish.

Genotype	P _{crit} (kPa)	
	BSR	LLO
Wild-type	2.8±0.3	3.5±0.3
Hif1aa ^{-/-}	2.7±0.3	3.8±0.3
Hif1ab ^{-/-}	2.6±0.2	3.6±0.4
Hif1aa ^{-/-} ab ^{-/-}	2.7±0.2	4.2±0.4

There was no significant effect of genotype on P_{crit} using values calculated by either BSR (see Table 1 captions for ANOVA statistic summary) or LLO (ANOVA; F=0.8, P=0.5; n=6-9). Data are presented as means ± sem.