## **Supplementary Information**

Table S1. Comparison of change in APN mRNA by two methods in nestlings switched from lower protein to higher protein diet.

Diet	Age	APN activity <sup>α</sup>			APN mRNA <sup>β</sup>			APN mRNA <sup>γ</sup>		
group	(d)	(μmol min <sup>-1</sup> g <sup>-1</sup>			(Method 1)			(Method 2)		
		tissue)								
		n	Mean	S.D.	n	Mean	S.D.	n	Mean	S.D.
Eating lower protein	6	12	4.83	0.73	9	0.000#	0.264	9	$0.000^{##}$	0.121
diet S										
for prior 3 d										
Initially ate lower	7	12	6.53	1.54	10	0.602	0.237	10	0.686	0.460
protein										
diet S for 3 d, then										
switched 1 d to										
higher protein diet P										
<i>t</i> -test comparison <sup>†</sup>		t <sub>22</sub> =3.35, P=0.003			<i>t</i> <sub>16</sub> =3.99, <i>P</i> <0.0001			$t_{16}$ =5.05, $P$ =0.0012		

 $<sup>^{\</sup>alpha}$ data from (Rott et al., 2017b) – Rott et al. (2017)

 $<sup>^{\</sup>beta}$  estimated using the data driven normalization procedure (Norma-gene algorithm) according to (Heckmann et al., 2011)- Heckmann et al. (2011)

 $<sup>^{\</sup>gamma}$  estimated using a reference gene (GAPDH) according to (Schmittgen and Livak, 2008) – Schmittgen & Livak (2008), the comparative C(T) method

 $<sup>^{\</sup>mbox{\tiny \#\&\,\#\#}} actual$  computed values were  $\mbox{\#: } 3.08x10^{\mbox{\tiny -18}}$  and  $\mbox{\#\#: } 1.11x10^{\mbox{\tiny -4}}$ 

<sup>†</sup>*t*-test for pooled variances, after confirming data were normally distributed (Lilliefors test) and homoscedastic (Levene's test) (Wilkinson, 2009)