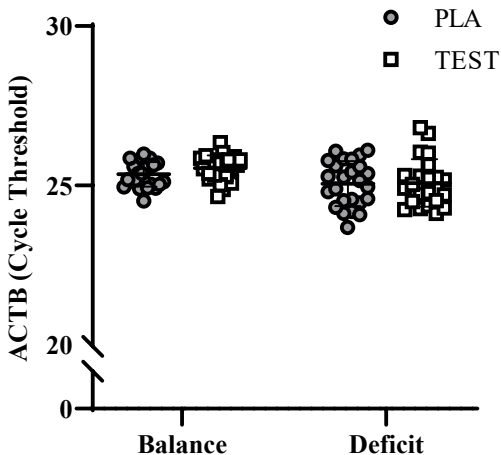


Online Supplementary Data

Supplemental Figure 1: ACTB Cycle Threshold Count



ACTB cycle threshold count from rested/fasted muscle biopsies collected during energy balance (day 14) and energy deficit (day 42).

Supplemental Table 1: Sample Menus

	Energy Balance	Energy Deficit
	Food Item Weights (g)	Food Item Weights (g)
Breakfast		
Grits, instant	50.0	29.7
Butter, salted	18.0	8.5
Canadian bacon	132.0	179.0
Egg white, raw weight	125.0	106.0
Orange juice	248.8	0
Milk, skim	236.0	250.2
Lunch		
Pita bread, white	55.0	0
Turkey breast, oven roasted	130.0	130.0
Mayonnaise, regular	24.0	0
Cheese, Swiss, sliced	40.0	45.0
Pretzels, tiny twists	20.0	12.7
Lettuce, romaine, raw	23.5	90.0
Tomato, raw, sliced	20.0	40.0
Ranch dressing, regular	0	120.0
Dinner		
Lemon sage chicken breast	145.0	145.0
Long grain & wild rice blend	200.0	110.0
Capri vegetable mix	130.0	80.0
Dinner roll, whole wheat	60.0	0
Butter, salted	20.0	14.0
Pears, canned in juice	190.0	0
Greek yogurt, fat-free vanilla	0	116.6
Snack		
Pretzels, tiny twists	57.0	40.3
Raisins	52.6	37.1
Crackers, Cheez It	30.0	21.2
M&M's	15.0	10.6

Online Supplementary Data

Supplemental Table 2: Non-significant mRNA expression

mRNA	Placebo		Testosterone		Time	P-Values	
	Energy Balance	Energy Deficit	Energy Balance	Energy Deficit		Treatment	TxT
LARS	0.00 ± 0.99	0.06 ± 1.26	0.00 ± 0.88	-0.11 ± 1.22	0.082	0.930	0.959
GSY1	0.00 ± 0.95	0.29 ± 1.07	0.00 ± 1.21	0.24 ± 1.23	0.169	0.996	0.841
PGC-1α	0.00 ± 0.89	-0.14 ± 1.06	0.00 ± 1.12	0.21 ± 1.03	0.877	0.413	0.404
GSK3α	0.00 ± 0.68	0.16 ± 0.83	0.00 ± 0.83	0.11 ± 1.00	0.416	0.910	0.839
PRKAB2	0.00 ± 0.76	0.20 ± 0.86	0.00 ± 0.87	0.10 ± 1.02	0.815	0.853	0.116
ACACA	0.00 ± 0.66	0.17 ± 0.78	0.00 ± 0.67	0.10 ± 0.77	0.327	0.846	0.762
UCP3	0.00 ± 1.01	0.12 ± 1.12	0.00 ± 0.96	0.10 ± 1.07	0.560	0.972	0.920
NRF1	0.00 ± 0.89	0.00 ± 1.04	0.00 ± 0.97	0.08 ± 0.90	0.840	0.803	0.858
LAT1	0.00 ± 0.97	0.32 ± 0.99	0.00 ± 1.06	0.33 ± 1.06	0.920	0.748	0.637

Values are mean ± SD. mRNA expression from rested/fasted muscle biopsies collected during energy balance (day 14) and energy deficit (day 42). T×T = time-by-treatment