

**Supplemental Figure 2.** Overnight exogenous phenylalanine rate of appearance (Ra) (A), endogenous phenylalanine Ra (B), total phenylalanine Ra (C), and total phenylalanine rate of disappearance (Rd) (D). The dotted line represents the ingestion of the treatment. Values represent means±SEM. Data were analyzed with repeated-measures (time x treatment) ANOVA. Exogenous phenylalanine Ra: time effect: *P*<0.001; treatment effect: *P*=0.957; time x treatment interaction: *P*=0.334. Endogenous phenylalanine Ra: time effect: *P*<0.001; treatment effect: *P*=0.368; time x treatment interaction: *P*=0.179. Total phenylalanine Ra: time effect: *P*<0.001; treatment effect: *P*=0.468; time x treatment interaction: *P*=0.366.Total phenylalanine Rd: time effect: *P*<0.001; treatment effect: *P*=0.421; time x treatment interaction: *P*=0.370.PRO: pre-sleep protein ingestion without prior exercise, PRO+EX: pre-sleep protein ingestion with prior exercise.