

strategies (days to weeks) are used less frequently. **PURPOSE:** We evaluated the effect of dietary supplementation on recovery and mood state following an Ironman-distance triathlon. **METHODS:** Eighteen subjects were randomly assigned to Supplement (S, n=11) or Control (C, n=7). Subjects performed their "normal" post-race recovery regimen alone (C) or with a morning (AM) and evening (PM) dietary supplement for 14 days following an Ironman-distance triathlon (2.4 mile swim, 112 mile bike, 26.2 mile run). AM consisted of 5 herbal extracts (Cordyceps, Rhodiola, Eleuthero, Ashwagandha, and Eurycoma) and PM consisted of 8 nutrients (Glutamine, Leucine, Valine, Isoleucine, Papain, Bromelain, Beta-sitosterol, and Citrus bioflavonoids). The Profile of Mood States (POMS) questionnaire was used to evaluate Tension, Depression, Anger, Vigor, Fatigue, Confusion and Global Mood State at baseline and 2-weeks. Data were analyzed using unpaired t-tests with significance set at  $p < 0.05$ . **RESULTS:** S had significantly lower scores for Stress (-21%,  $p=0.037$ ), Tension (-54%,  $p=0.009$ ), Depression (-64%, trend  $p=0.07$ ), Anger (-62%,  $p=0.027$ ), Fatigue (-53%,  $p=0.025$ ) and Confusion (-67%,  $p=0.001$ ) and higher scores for Vigor (+69%,  $p=0.001$ ) and Global Mood (+29%,  $p=0.002$ ) compared to C. **CONCLUSIONS:** Adequate recovery is important for athletes to support the demands of training and competition, but also for protection from overtraining, illness, and injury. These results strongly indicate that targeted dietary supplementation is effective for enhancing recovery following intense endurance exercise.

### 701.32

#### Validation of dietary isoflavone intake by urinary isoflavone concentrations in US adults

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We have recently reported the dietary isoflavone intake of US adults estimated from the USDA isoflavone database and US food consumption data. Others have reported that the urinary isoflavone excretion is associated with dietary intake levels. We aimed to validate the dietary isoflavone intake of the US adults by comparing intake with urinary isoflavone concentrations using the USDA isoflavone database, 24h dietary recalls (DR) and urinary isoflavone data of 2,908 US adults (>19+ y) in NHANES 1999-2002. Daily isoflavone intake was positive in 37% of the subjects, averaging 1.4 mg for all, and composed of genistein (51%), diadzein (33%) and glycitein (9%). Urinary isoflavone concentration, consisting of genistein, daidzein, *O*-desmethylangolensin, and equol, averaged 689.6 ng/mL in isoflavone-consumers vs. 472.1 ng/mL in isoflavone non-consumers ( $p=0.07$ ). Among the isoflavone consumers, the urinary concentrations of genistein and daidzein were associated with the dietary intake of the respective compounds after adjusting for gender, age, BMI, and income level ( $p<0.01$ ). Estimated dietary isoflavone intake was effective in assessing dietary isoflavone intake level of US adults as validated by urinary excretion.

### 701.33

#### Light-Independent Anti-Inflammatory Activity of *Hypericum perforatum* Extracts

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Since *Hypericum perforatum* (Hp) constituents possess light-activated anti-viral and anti-proliferative activity, we assessed whether the anti-inflammatory activity of Hp extracts is dependent on light-activation using a prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) assay. RAW264.7 macrophage cells were stimulated with lipopolysaccharide (LPS) and PGE<sub>2</sub> levels were measured at 8 hours. Soxhlet chloroform extracts at 8-29 µg/ml reduced PGE<sub>2</sub> levels by 50-85% and Soxhlet ethanol extracts at 65-147 µg/ml reduced PGE<sub>2</sub> levels by 89-93%. The level of constituents detected by LC-MS within the extracts were lower than the concentration of pure constituents needed to reduce PGE<sub>2</sub>, suggesting that interaction of compounds may be important in the anti-inflammatory activity of the extracts. Chloroform and ethanol extracts of Elixir™ significantly reduced PGE<sub>2</sub> at 8 µg/ml, however; no other accession tested reduced PGE<sub>2</sub> at this concentration. The common constituent between the extracts was hypericin, but pure hypericin did not reduce LPS-induced