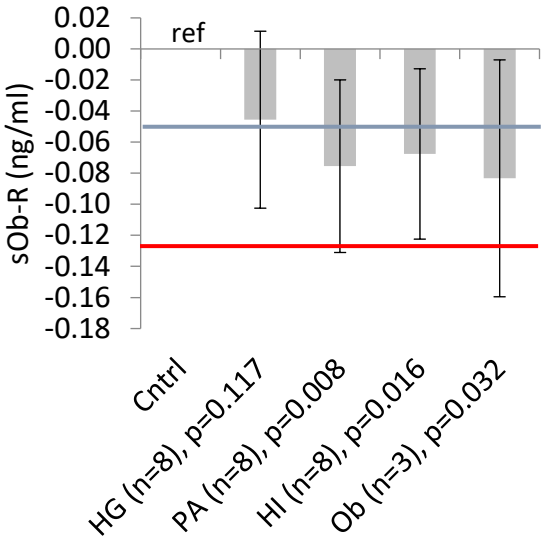

Supplemental Fig 1. Effect of different stimuli on sOb-R levels compared to no stimulus (ref). Values are betas and 95 % Cis from mixed linear regressions. Blue line indicates the variation across parallels from sOb-R quantification. Red line indicates the reported sensitivity of the analysis kit. Cntrl=Control, HG=hyperglycemia, PA=palmitic acid, HI=hyperinsulinemia, Ob=Hyperleptinemia

In vitro experiments

Myotubes cultivated from satellite cells of eight live athletic donors stimulated with or without electrical pulse stimulation (EPS) to mimic physical activity, glucose to mimic hyperglycemia (HG), palmitic acid (PA), which usually increase following a meal, insulin to mimic hyperinsulinemia (HI) and leptin (only in three donors) to mimic the hyperleptinemia that follows obesity. sOb-R in media from the human endothelial cells and myotubes were quantified using ELISA (R&D Systems, Minneapolis, MN, USA), at the Department of Nutrition, Institute of Basic Medical Sciences, University of Oslo.

Results

Most sOb-R values were below the detection limit of the kit, and all effects of stimuli were smaller than the reported sensitivity of the ELISA kit (128 ng/L). The variation across parallels was 4 %, or 50 ng/L. In mixed models linear regression treating the individual donors as random-effects, electrical pulse stimulation (EPS) had no significant effect on sOb-R levels in conditioned cell media (p=0.50) in models adjusted for protein, nor in models adjusted for additional stimuli (p=0.052). Incubation with PA, insulin and leptin, both with or without simultaneous EPS, consistently lowered the concentrations of sOb-R in cell media, with a similar trend seen for glucose incubation in models adjusted for protein and EPS. We found no interaction with EPS and the different stimuli. However, we cannot trust these statistically significant effects because the confidence intervals overlapped the observed variation across the parallel measurements.