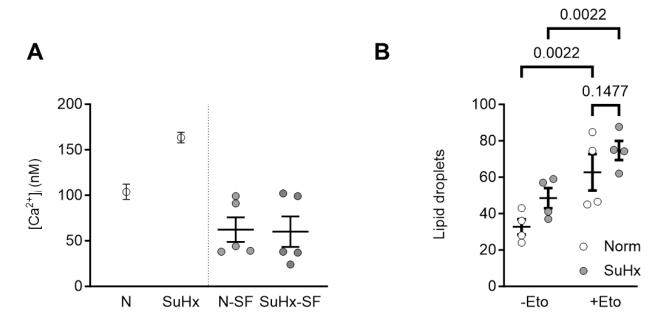
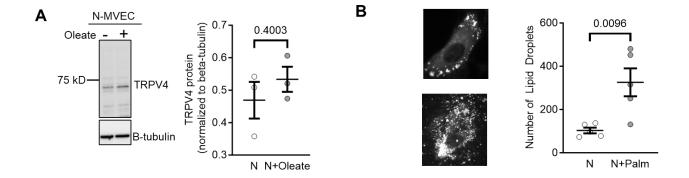


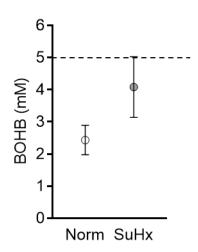
Supplementary Figure 1: A) Results of geneset enrichment analysis (GSEA) showing enrichment, in PAH lung samples, of transcripts assigned to gene ontology terms associated with metabolism and processing of fatty acids/acyl-CoAs. B) Levels of long chain fatty acid oleate and palmitate in the serum of patients without PH and PAH.



Supplementary Figure 2: A) Dot plots showing mean(\pm SEM) basal [Ca²⁺]_i in N- and SuHx-MVECs (also shown in Figure 4A), and scatter plot showing basal [Ca²⁺]_i in N- and SuHx-MVECs exposed to serum-free (SF) media. **B)** Lipid droplet numbers in N- and SuHx-MVECs with and without treatment with FAO inhibitor Etomoxir (Eto).



Supplementary Figure 3: **A)** Photomicrograph of western blot image and densitometry quantification of TRPV4 protein levels (normalized to beta-tubulin) in untreated and Oleate-treated N-RLMVECs. **B)** Representative photomicrographs and lipid droplet quantification of N-MVECs with diluent (N) or 13C-palmitate (N+Palm) treatment.



Supplementary Figure 4: Raw values for intracellular BOHB concentrations in N- (Norm) and SuHx-MVECs. Dashed line represents BOHB concentration chosen for treatment in subsequent experiments.