SUPPLEMENTARY DATA

Supplementary Table 1. Primer sequences used for quantitative real-time RT- PCR

Gene	Sense 5'---3'	Antisense 5'---3'
CD14	TAAAGGACTGCCAGCCAAGC	AGCCAAGGCAGTTTGAGTCC
CD68	ATGATGAGAGGCAGCAAGATGG	GCTACATGGCGGTGGAGTACAA
TNFα	GCTGCACTTTGGAGTGATCG	TTGAGGGTTTGCTACAACATGGG
IL6	GGATTCAATGAGGAGACTTGC	TTTTGTACTCATCTGCACAGC
MCP1	AGCCAGATGCAATCAATGCC	GTCTTGAAGATCACAGCTTCTTTGG
CPT1	TTATCAACAAGCCAGACCCC	TATAATCCCCGTCTCAGGGC
NF-kB	AAGTATTTCAACCACAGATGGC	TGCAGATTTTGACCTGAGGG
Adiponectin	AGATCCAGGTCTTATTGGTCC	GAGCGGTATACATAGGCACC
IL8	ACTCCAAACCTTTCCACCCC	CTCAGCCCTCTTCAAAAACTTCTCC
CIDEA	CGGCTGCCTTAACGTGAA	AGATGAGAAACTGTCCCATCA
UCP2	CCTCATGACAGATGACCTCC	TGTATCTCGTCTTGACCACG
UCP3	CTACAAGGGATTTACACCCTCC	CTTAACTGGTTTCGGACACG
GLUT4	CCCCATTCCTTGGTTCATCG	ATAGCCTCCGCAACATACTGG
PGC1α	TTGAAGAGCGCCGTGTGATT	TGTCTCCATCATCCCGCAGAT
ß2-microglobulin	GAGGCTATCCAGCGTACTCC	AATGTCGGATGGATGAAACCC

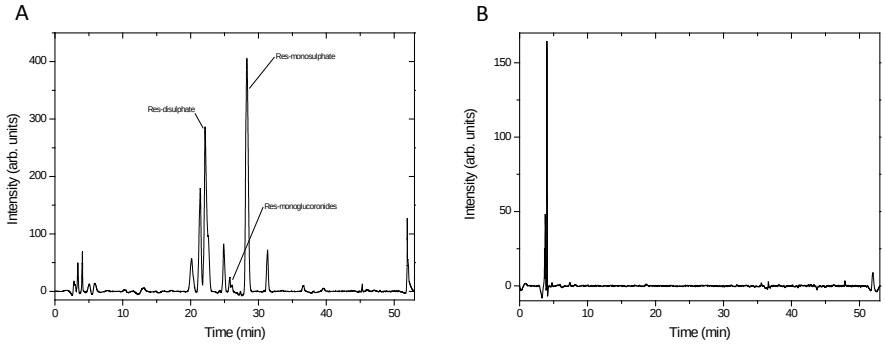
Supplementary Table 2. Adverse events

	PLACEBO	RESVERATROL
Flatulence	1	1
Loose stool	1	0
Reflux	1	2
Palpitations	1	0
Rash	0	1

Absolute number of adverse events reported during the trial period. According to the National Cancer Institute Common Terminology Criteria for Adverse Events (CTCAE) all events were grade 1.

Supplementary Table 3. Urine resveratrol metabolites

	PLACEBO	**RESVERATROL**
RSV glucoronide, isomer 1 (µg/ml)	Not detectable	219.2 ± 44.5
RSV glucoronide, isomer 2 (µg/ml)	Not detectable	82.7 ± 19.0
RSV disulphate (µg/ml)	Not detectable	1.54 ± 0.38
RSV monosulphate (µg/ml)	Not detectable	271.3 ± 39.5



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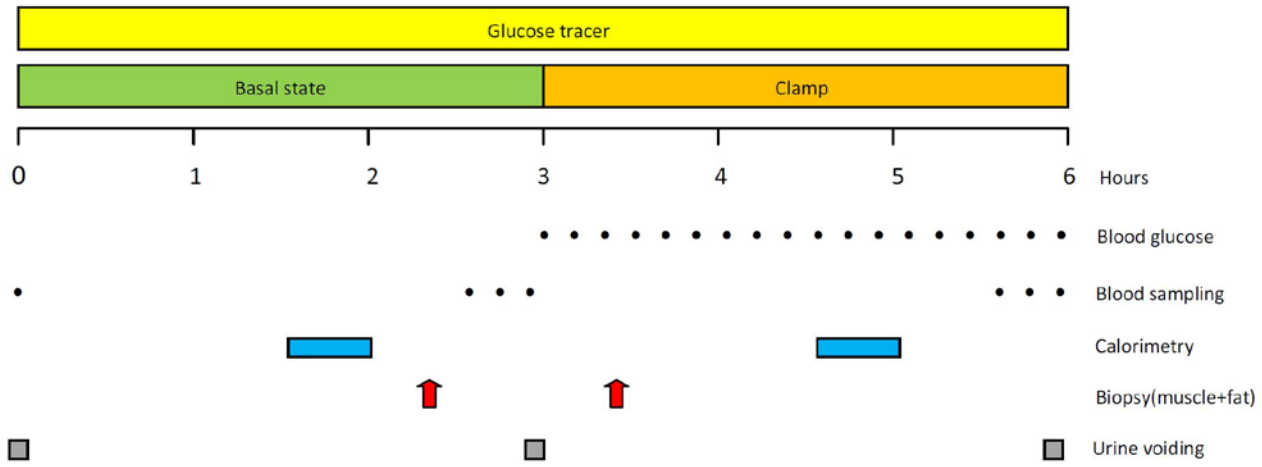
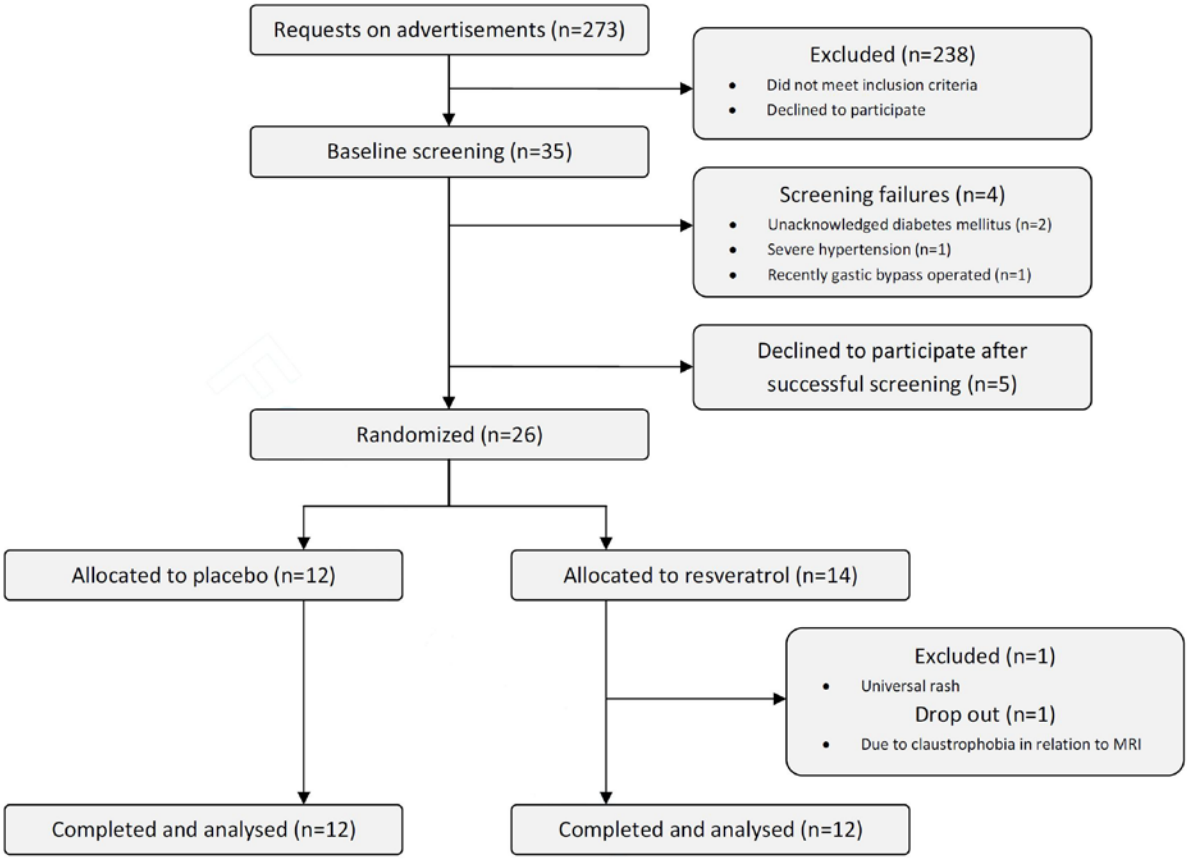
SUPPLEMENTARY DATA

Main urine resveratrol metabolites at the end of the treatment period (t=4 weeks). Values are given as mean ±SEM. Figures are representative HPLC-DAD chromatograms (λ=300 nm) of urine samples from subjects receiving resveratrol (A) or placebo (B) treatment.

Supplementary Figure 1. Full day metabolic investigation



Supplementary Figure 2. Trial profile



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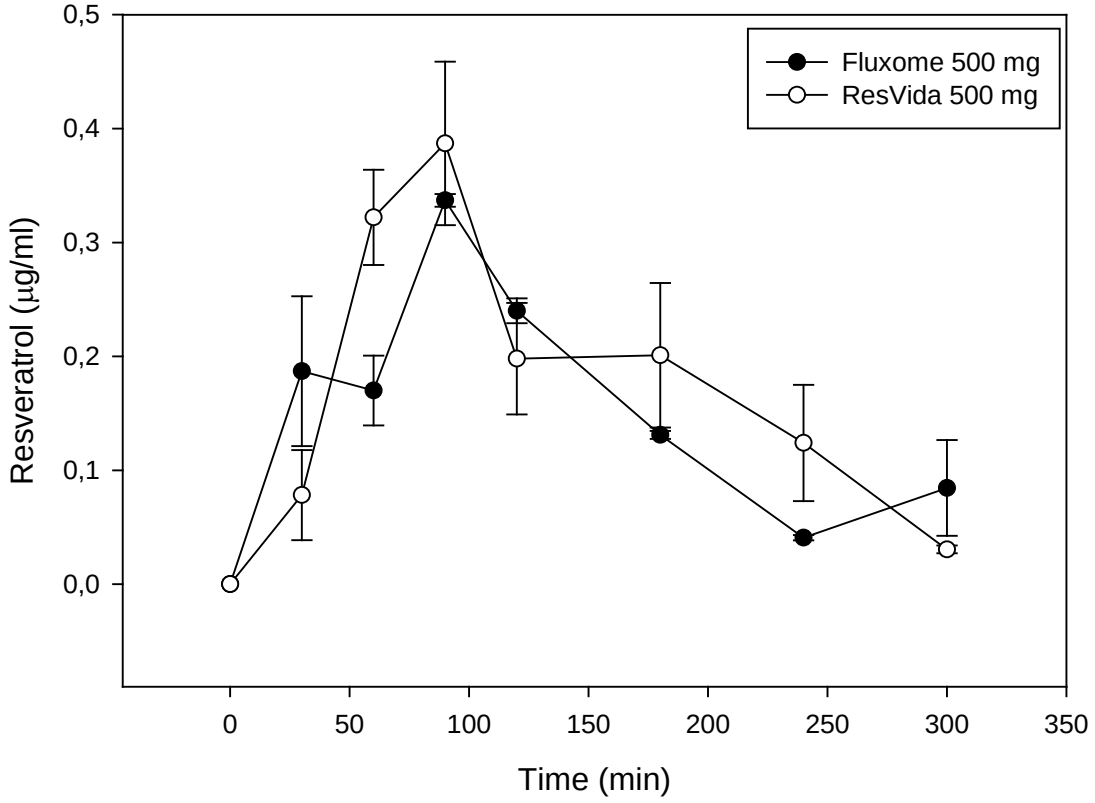
SUPPLEMENTARY DATA

Supplementary Figure 3. Pharmacokinetics. Absorption profile after ingestion of 500 mg Fluxome trans-resveratrol (N=3) or 500 mg ResVida trans-resveratrol (N=3). Plasma concentrations assessed by HPLC. Data points represent means ± SEM



Supplementary Figure 4. Gene expression and protein phosphorylation. Intracellular protein levels and relative mRNA expression in muscle and adipose tissue biopsies taken before and after 4 weeks treatment with placebo (N=12) or resveratrol (N=12). Biopsies were taken ahead of and during (20 minutes after initiation) a hyperinsuliemic euglycemic clamp. Throughout the figure filled bars indicate placebo group and open bars indicate resveratrol group. Results are presented as group means ± SEM, and overall comparisons of potential treatment effects were performed by two way repeated measures ANOVA in basal and clamp situation, respectively. ***A***: Relative UCP3 mRNA expression in muscle tissue assessed by RT-PCR ***B-K***: Relative mRNA expression of CPT1, UCP2, UCP3, IL6, IL8, adiponectin, MCP1, CD14, CD68 and CIDEA in subcutaneous adipose tissue assessed by RT-PCR. ***L***: Phosphorylation of the intracellular kinase acetyl-CoA carboxylase (ACC) assessed by western blot analysis in muscle tissue. ***M***: Phosphorylation of SIRT1 assessed by western blot analysis in muscle tissue. ***N-S***: Acetylation of lysine residues assessed by western blot analysis in muscle tissue; separated analysis of the six major bands comprising the total acetylation illustrated in *Figure 5 | Gene expression and protein phosphorylation*

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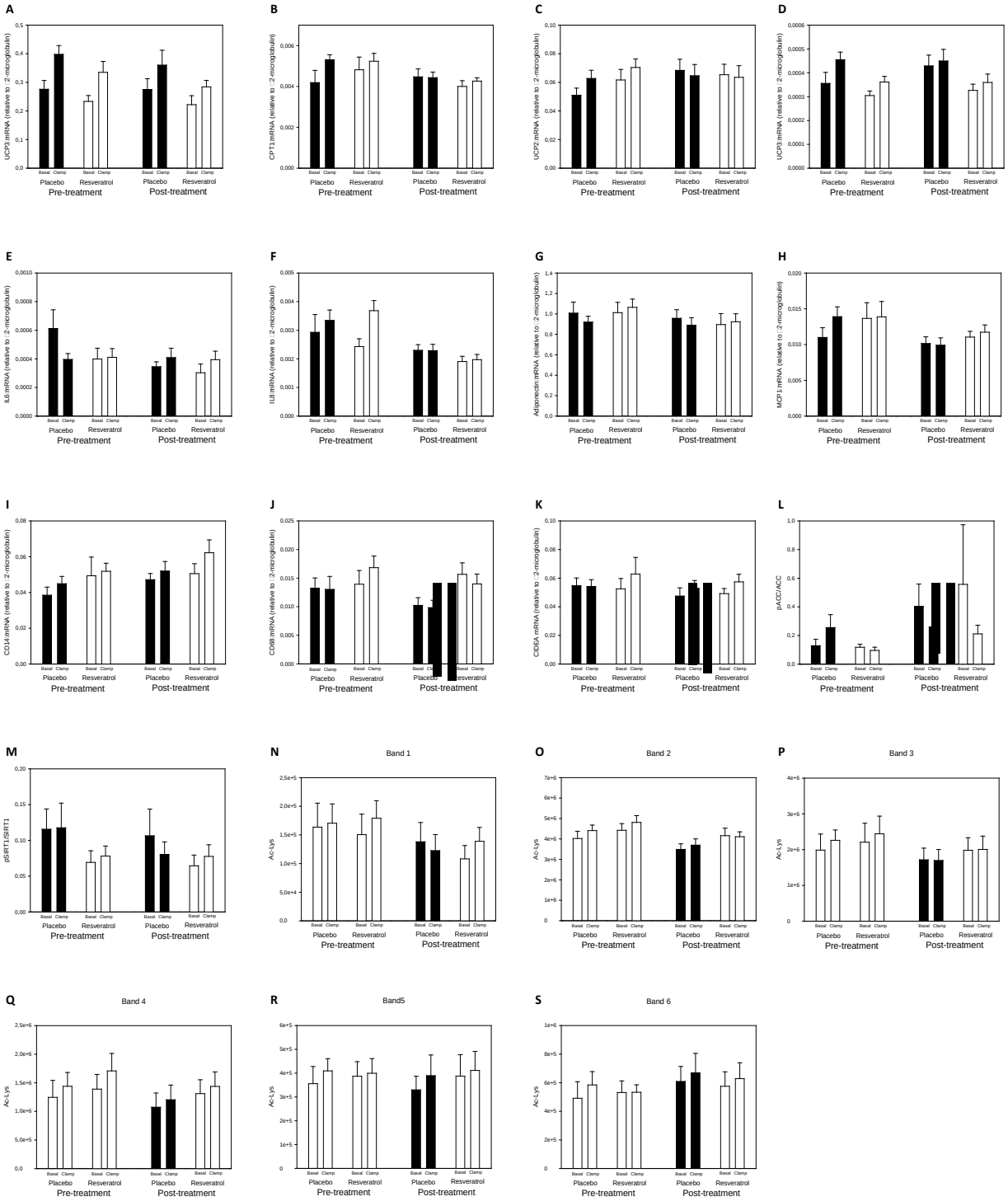
SUPPLEMENTARY DATA



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