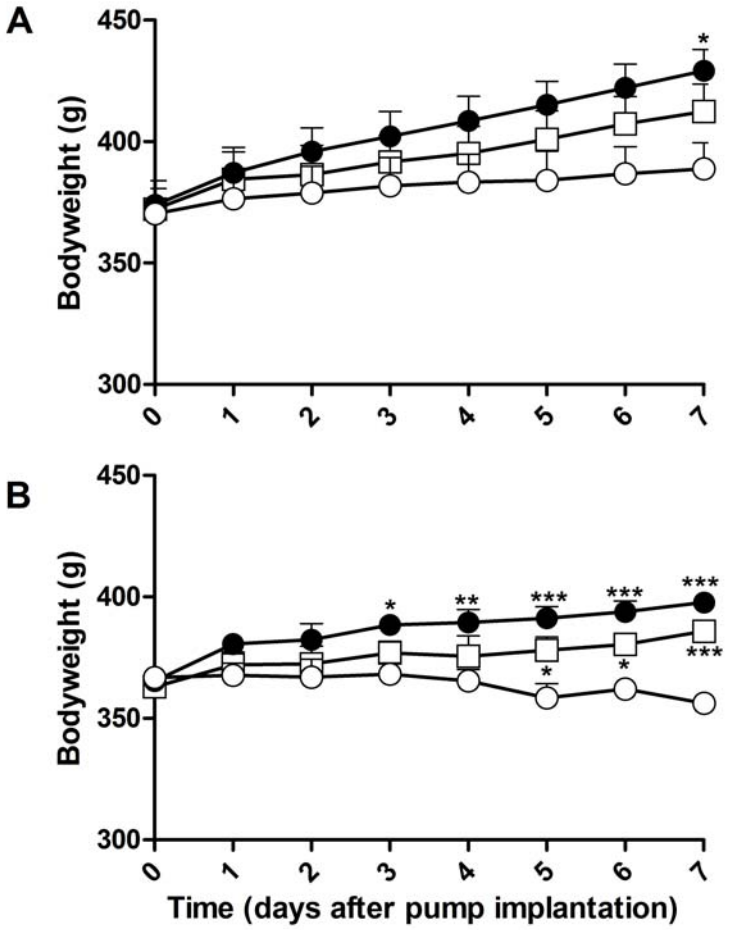
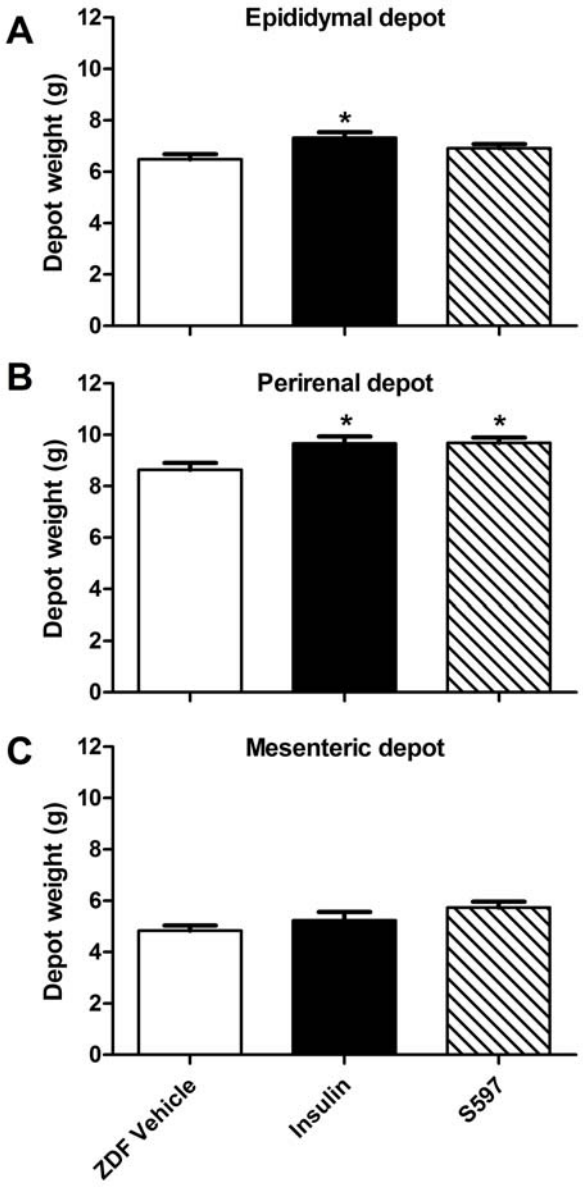
SUPPLEMENTARY DATA

Supplementary Figure 1. Bodyweight
Body weight after subcutaneous implantation of osmotic minipumps containing buffer (ZDF Vehicle, white circles), 0.2mM of insulin (black circles)) or 0.4mM S597 (white squares). Figure 1A shows the results from study A whereas 1B shows the bodyweights of study B. *=p<0.05; **=p<0.01; ***=p<0.001 as compared to ZDF Vehicle (Two-way ANOVA with Bonferroni post-tests). Error bars are SEM (in some groups the error bars are not visible due to small values).



SUPPLEMENTARY DATA

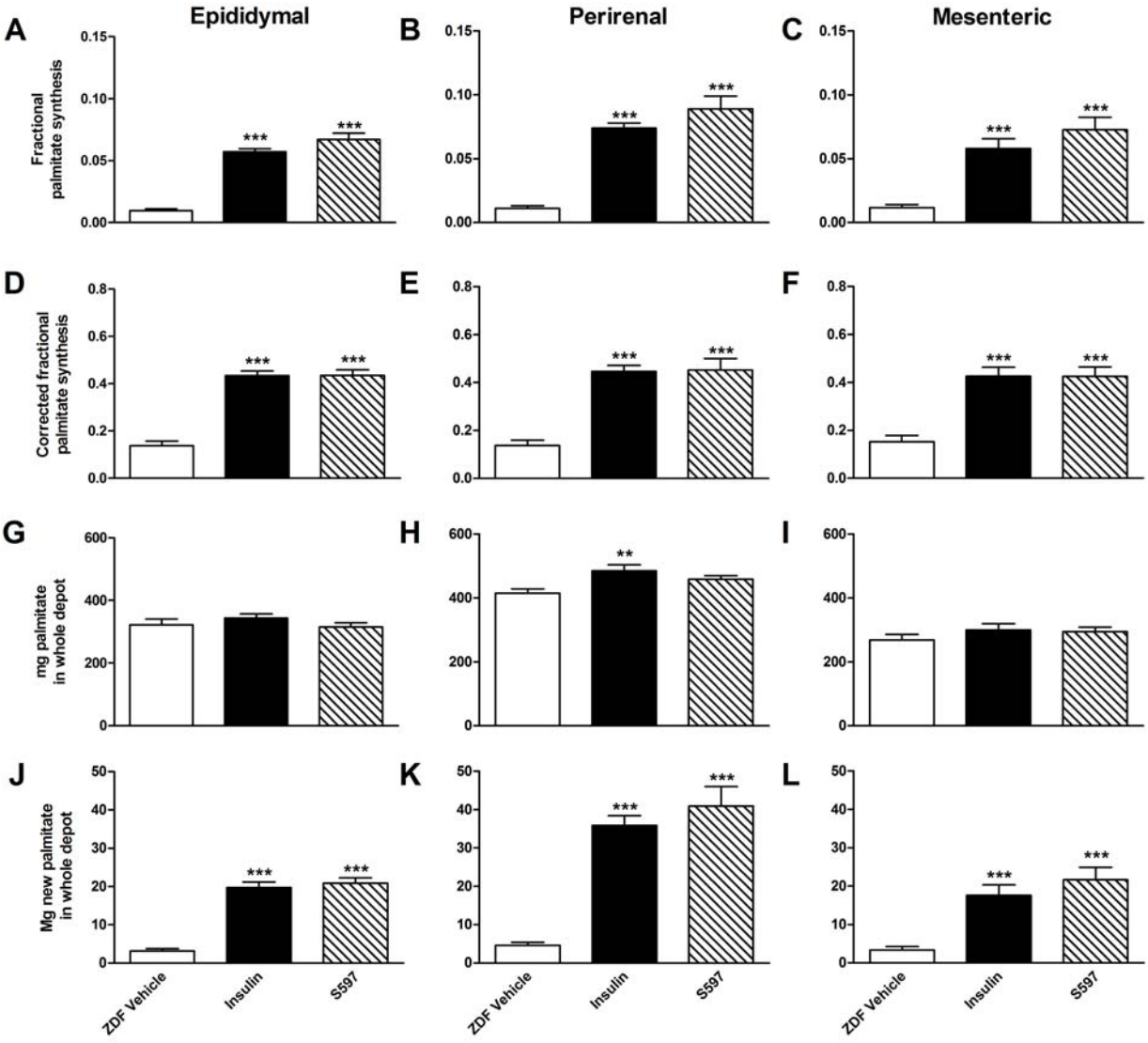
Supplementary Figure 2. Weights of adipose depots
In study B the epididymal (2A), perirenal (2B), and mesenteric (2C) adipose depots were all carefully dissected and weighed. *=p<0.05 as compared to ZDF Vehicle (one-way ANOVA with Bonferroni post-tests). Error bars are SEM.



SUPPLEMENTARY DATA

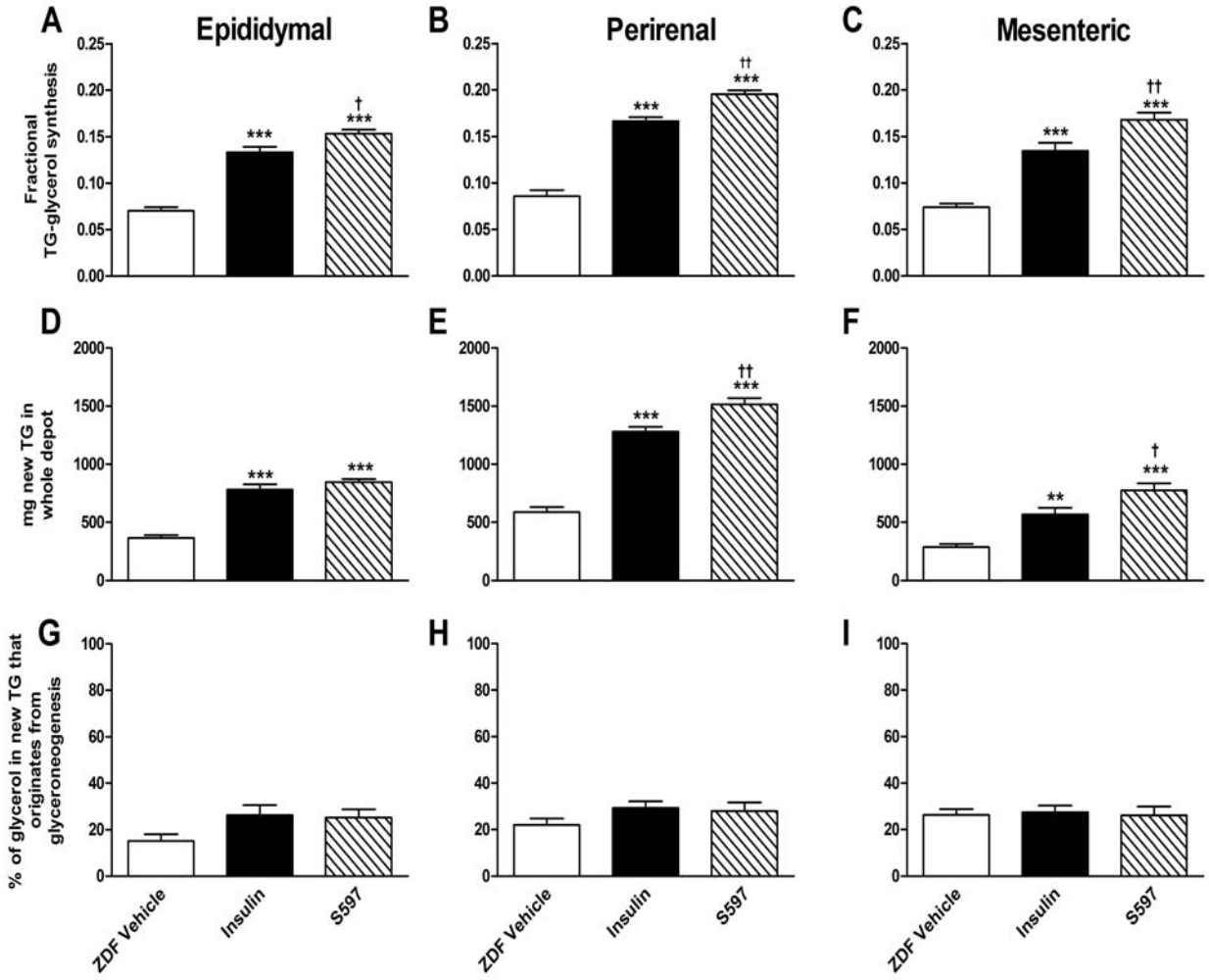
Supplementary Figure 3. Palmitate synthesis in the epididymal, perirenal, and mesenteric adipose depots.

Fractional palmitate synthesis in epididymal, perirenal and mesenteric adipose depots is given in suppl. figure 3A, 3B, and 3C. The corrected fractional palmitate synthesis (3D for epididymal, 3E for perirenal, and 3F for the mesenteric adipose depot) is a measure of how large a fraction of palmitate in only the newly formed TGs is *de novo* synthesized . Figures 3G (epididymal), 3H (perirenal), and 3I (mesenteric adipose depot) are the quantified amounts of total palmitate present within each tissue whereas the quantified of new palmitate only is given in 3J (epididymal), 3K (perirenal), and 3L (mesenteric adipose depot). *=p<0.05; **= p<0.01; ***=p<0.001 as compared to ZDF Vehicle (one-way ANOVA with Bonferroni post-tests). Error bars are SEM.



SUPPLEMENTARY DATA

Supplementary Figure 4. TG-glycerol synthesis and biosynthetic origin in the epididymal, perirenal, and mesenteric adipose depots.
4A (epididymal), 4B (perirenal), and 4C (mesenteric adipose depot) are measures of fractional TG-glycerol synthesis with 5 days of heavy water labelling. The absolute quantified levels of TGs containing a new glycerol moiety are depicted in 4D (epididymal), 4E (perirenal), and 4F (mesenteric adipose depot). The biosynthetic origin of all new TG-glycerol e.g. how large a percentage of glycerol that originates from glyceroneogenesis versus glycolysis is given in figure 4G (epididymal), 4H (perirenal), and 4I (mesenteric adipose depot), respectively. **=p<0.01;***=p<0.001 as compared to ZDF Vehicle; †=p<0.05; ††=p<0.01 as compared to the Insulin group (one-way ANOVA with Bonferroni post-tests). Error bars are SEM.



SUPPLEMENTARY DATA

Supplementary Table 1. Palmitate and TG content of the adipose depots.
In all the remaining adipose depots palmitate content was quantified and TG content was estimated based on fat pad mass.

		ZDF Vehicle	Insulin	S597
Epididymal adipose depot	TG (g/depot)	5.19±0.45	5.86±0.47*	5.53±0.38
	Palmitate (g/depot)	0.322±0.052	0.343±0.039	0.315±0.037
Perirenal adipose depot	TG (g/depot)	6.91±0.61	7.73±0.61*	7.75±0.48*
	Palmitate (g/depot)	0.415±0.039	0.485±0.052**	0.459±0.031
Mesenteric adipose depot	TG (g/depot)	3.87±0.46	4.19±0.74	4.59±0.52
	Palmitate (g/depot)	0.269±0.052	0.300±0.020	0.295±0.038

Values are expressed as mean ± SE.
*=$p<0.05$; **=$p<0.01$ as compared to ZDF Vehicle
(one way ANOVA with Bonferroni post-tests)