Supplementary Data

PPARγ Co-Activator-1α (PGC-1α) Reduces Amyloid-β Generation Through a PPARγ-Dependent Mechanism

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Supplementary Figure 2. Knock-down of ADAM10 and BACE1 in N2a cells demonstrate clear ADAM10 and BACE1 signals. Representative Western blots for ADAM10 and BACE1 after 48 h of transient siRNA knock down in N2a cells. Cells were transfected with 300 pmol siRNA against ADAM10 (Dharmacon-004503-01-50) or BACE1 (Dharmacon-003747-01-50). Controls were transfected with nonspecific siRNA (Dharmacon-001206-13-20). Upper part: Membrane-Preparations allow for detection of a robust knock-down of BACE1 (on the right) compared to the control samples in the middle. With ADAM10 siRNA transfections the immature and mature levels of ADAM10 get strongly reduced (on the left). A\betaPP levels are unchanged under either condition. Calnexin levels were determined as loading control for the membrane-proteins. In lower part: Supernatants (SUP) were evaluated for changes in A\betaPP processing by ADAM10 and BACE1. Total levels of sA\betaPP (22C11, Chemicon) were unchanged. In ADAM10 siRNA treated cells sA\betaPP (2D8) levels were reduced as compared to controls. In BACE1 siRNA treated cells sA\betaPP levels (192swe, ELAN) were reduced. These consequences confirm the specific knock-down of the indicated o-secretase (ADAM10) and b-secretase (BACE1).
Supplementary Figure 3. PGC-1α decreases β-CTFs but does not affect total AβPP levels. A) Quantification of AβPP of total full length AβPP detected with antibody 140 in N2aw cells transfected with transfected with PGC-1α, PGC-1α siRNA, or PPARγ. B) Quantification of β-CTFs in membrane preparations of N2aw cells transfected with empty vector PGC-1α, PGC-1α + PPARγ, or PPARγ 1a (n = 4). Bars represent means ± SEM. Asterisks represent significant differences between Mock control and transfected cells (One-way ANOVA, Dunnett’s test). **p ≤ 0.01; ***p ≤ 0.001.