Stigmasterol prevents glucolipotoxicity induced defects in glucose-stimulated insulin secretion

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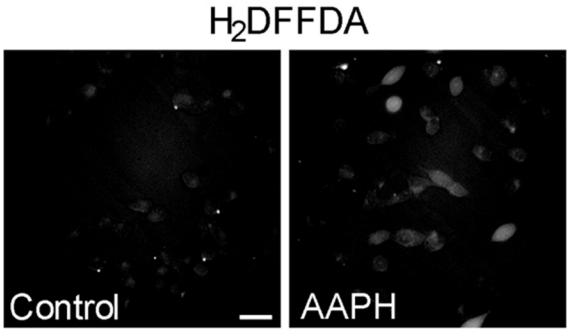
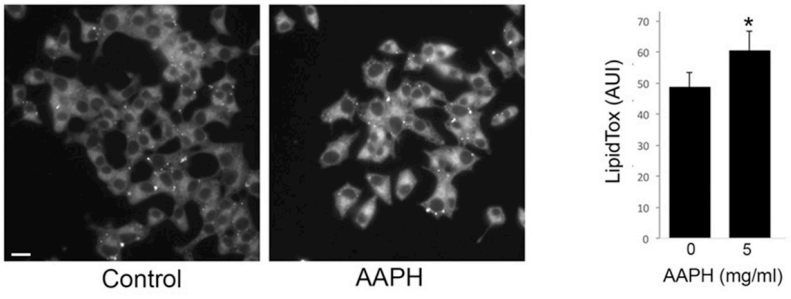
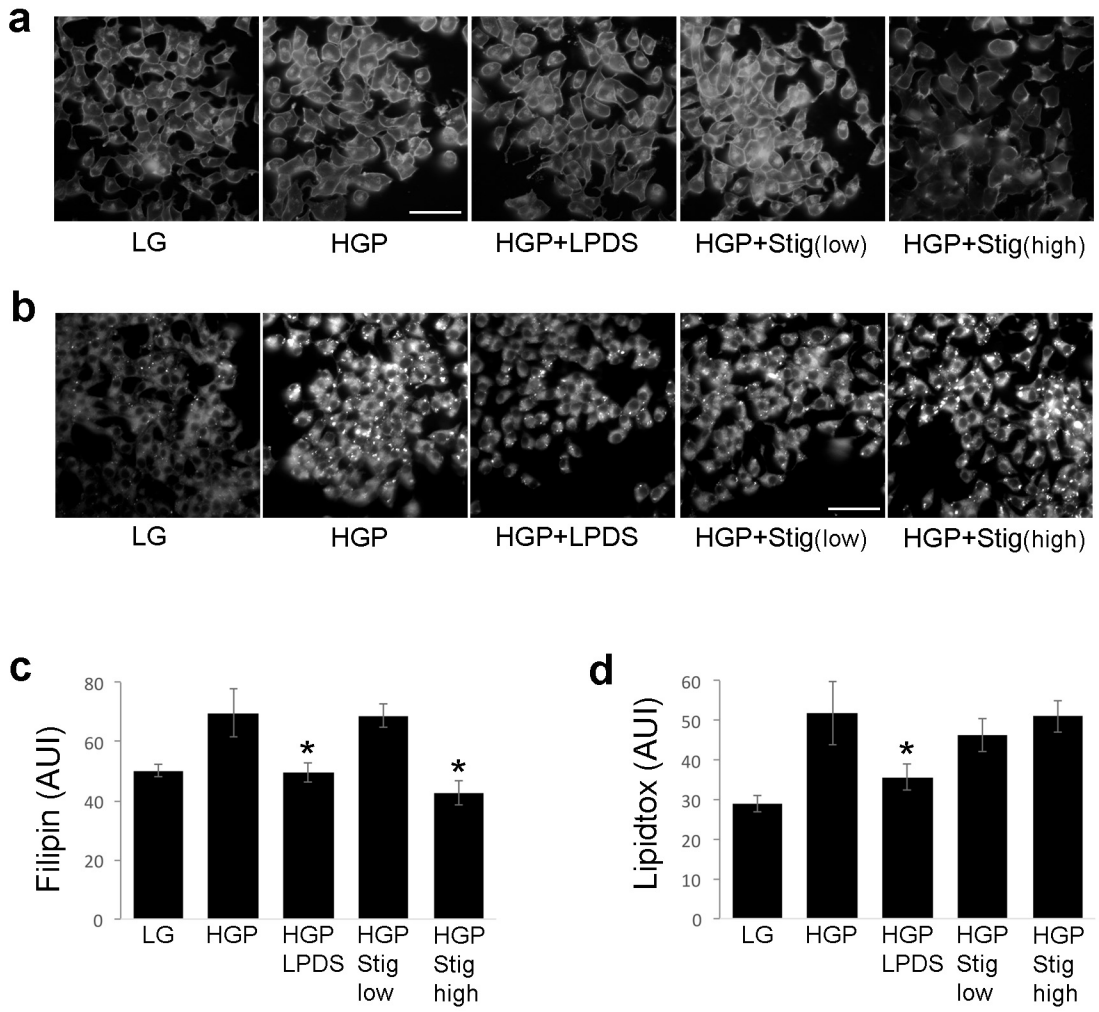


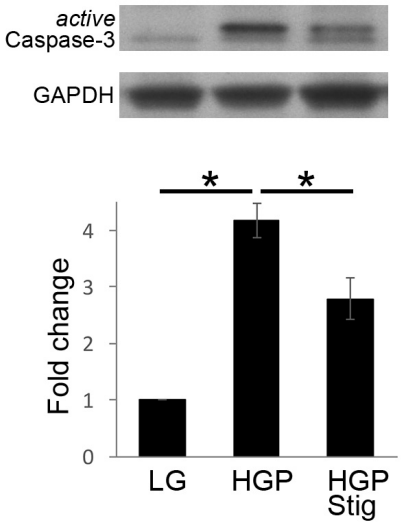
Supplementary Figure 1. AAPH induces ROS production in INS-1 cells. INS-1 cells were incubated for 1 h with 5 mg/ml AAPH and imaged using carboxy-H_2DFFDA. Scale bar, 15 μm.



Supplementary Figure 2. ROS induces neutral lipid accumulation in INS-1 cells. Lipidtox staining of INS-1 cells incubated for 1 h with 5 mg/ml AAPH in serum free media. Scale bar, 15 μm. Lipidtox intensity per cell was quantified. *p<0.05.



Supplementary Figure 3. Reversal of HGP-induced cholesterol increase by LPDS and stigmasterol. INS-1 cells treated for 72 h with LG, HGP, HGP+LPDS or HGP+stigmasterol (Stig) were stained with filipin (a) or lipidtox (b). Low and high stigmasterol concentration refers to 12.5 µg/ml and 50 µg/ml, respectively. Filipin (c) and lipidtox (d) fluorescence was quantified. Scale bars, 50 µm. *p<0.05 against HGP.



Supplementary Figure 4. Stigmasterol reduces HGP-mediated apoptosis indicated by decreased active caspase-3. Cells were treated as indicated, lysed and immunoblotted for active (cleaved) caspase-3. Equal amounts of total protein were loaded and GAPDH was used as loading control. *p<0.05 against HGP.