

Figure S1

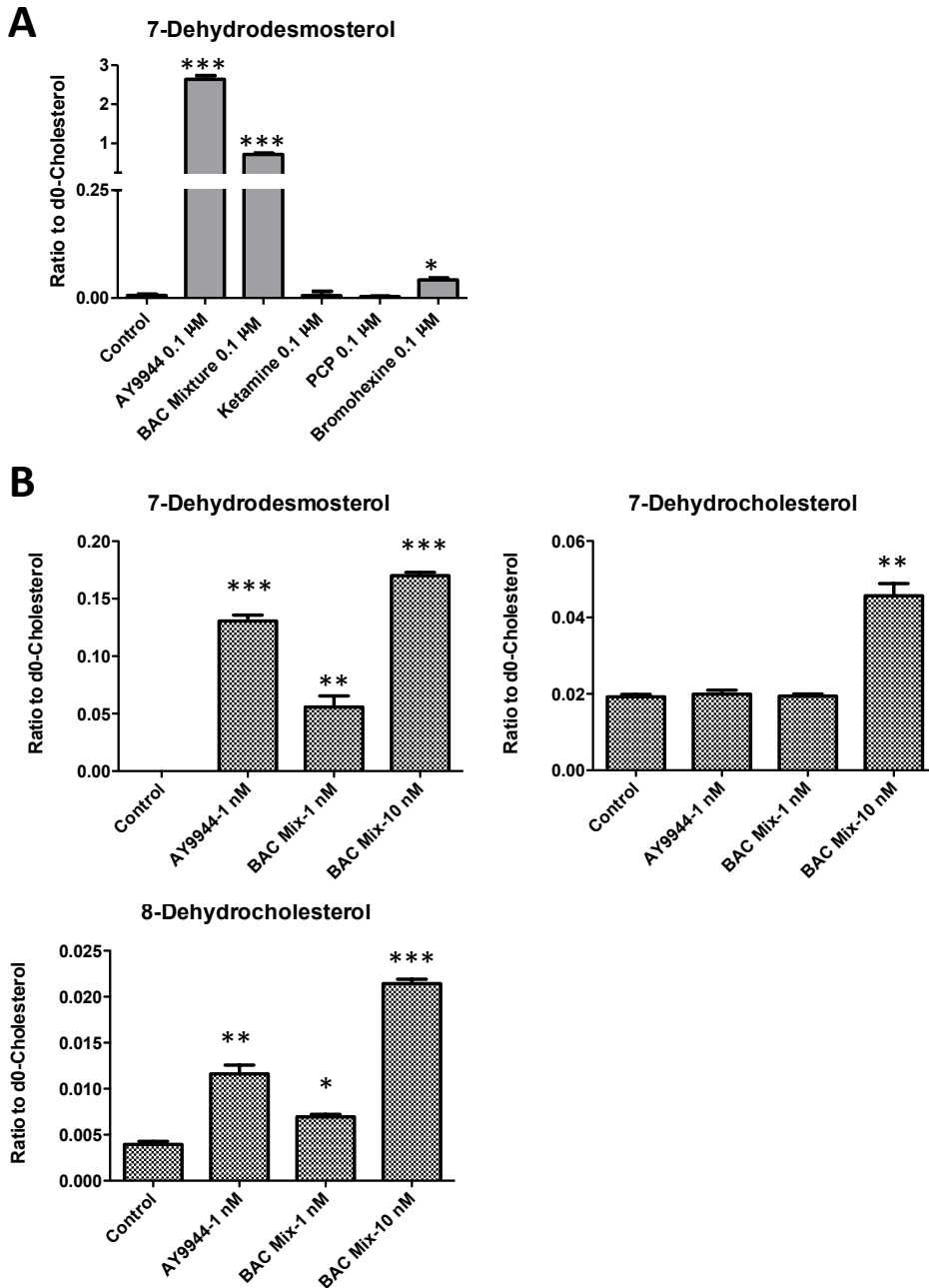


Figure S1. A) Effect of different compounds similar to AY9944 on cholesterol biosynthesis in Neuro2a cells on the levels of 7-dehydrodesmosterol (7-DHD) after 48 hrs of treatment. **B)** Effect of different concentrations of BACs on 7-DHC, 7-DHD and 8-DHC in Neuro2a cells after 48 hrs of treatment.

Figure S2

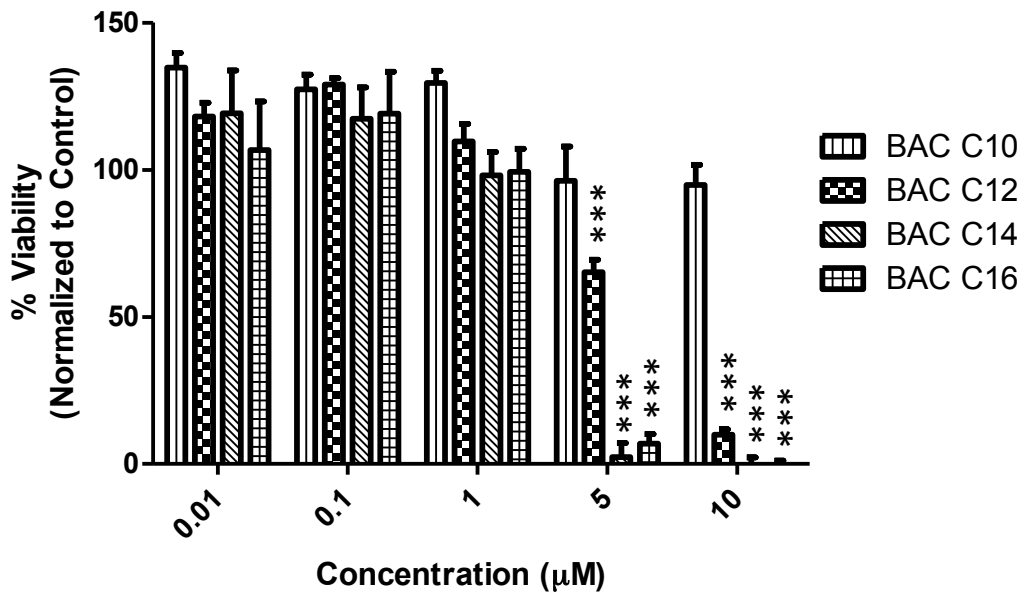


Figure S2. Cytotoxicity of individual BACs on Neuro2a cells after 24 hrs of treatment.

Figure S3

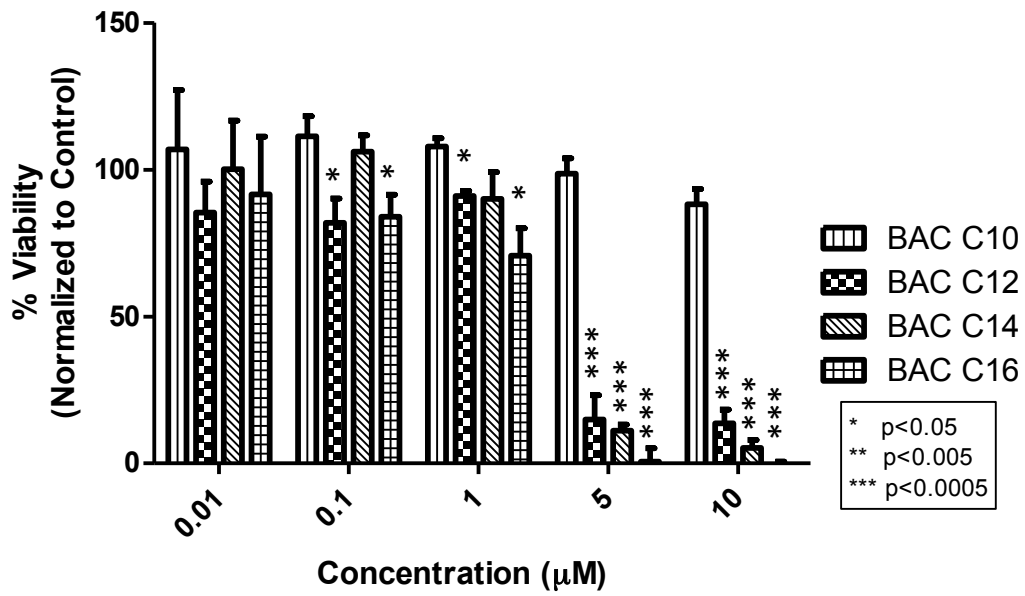


Figure S3. Cytotoxicity of individual BACs on SK-N-SH cells after 48 hrs of treatment.

Figure S4

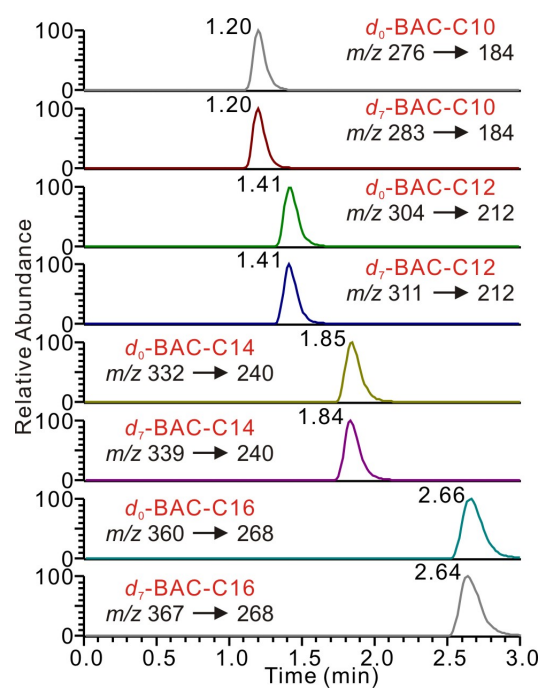


Figure S4. Reverse phase UPLC-MS/MS analysis of BACs using d_7 -BACs as internal standards. See Materials and Methods for detail.

Figure S5

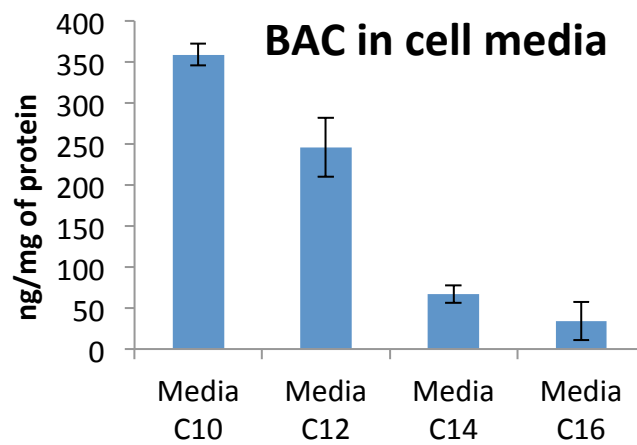


Figure S5. Levels of BACs in the media of the Neuro2a cells after being exposed to the respective compounds at 100 nM for 48 hrs. Their corresponding levels in the cells were shown in **Figure 2B**.

Figure S6

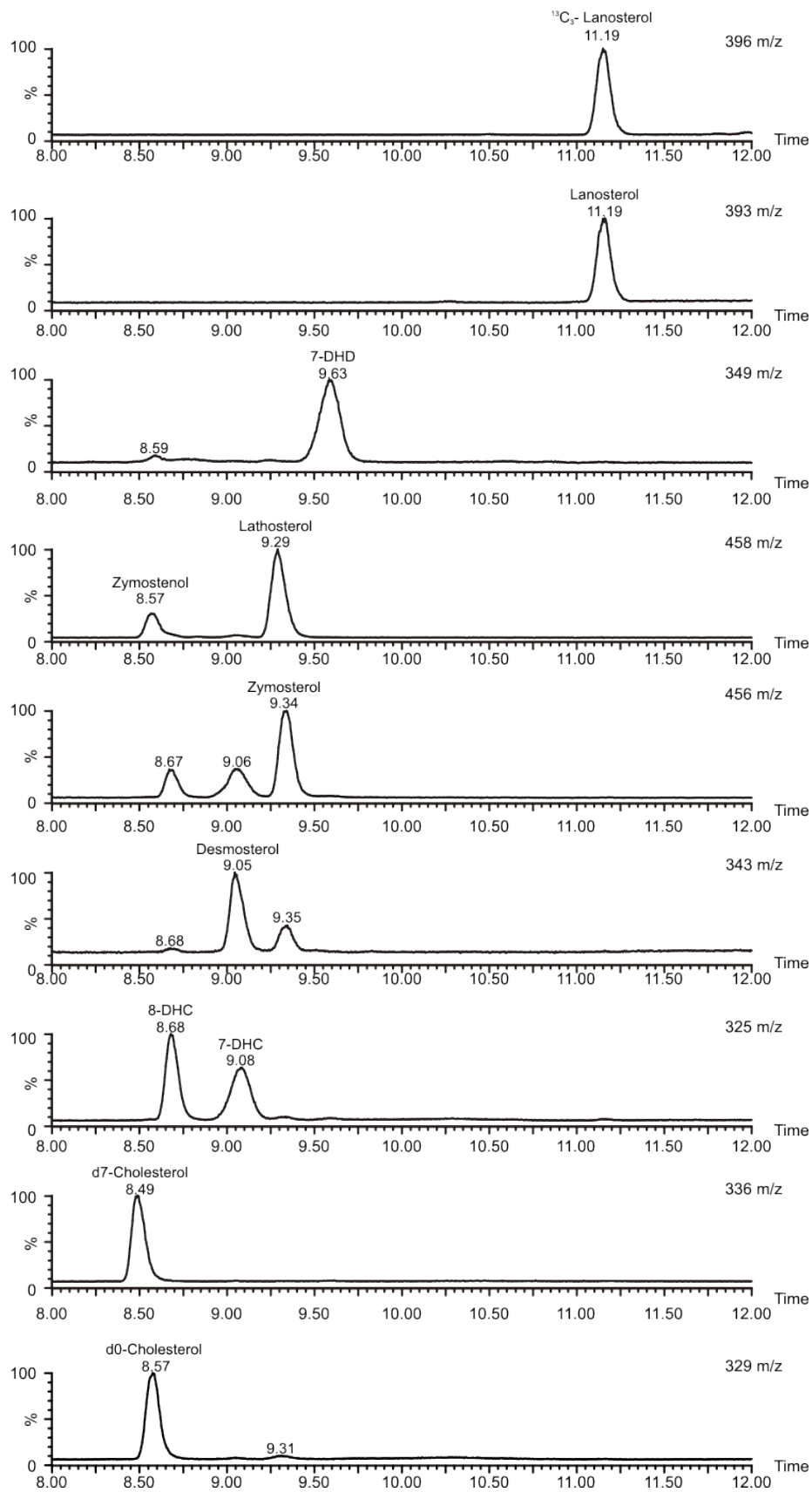


Figure S6. Representative chromatogram of analysis of standards of cholesterol and its precursors using GC-MS.

Figure S7

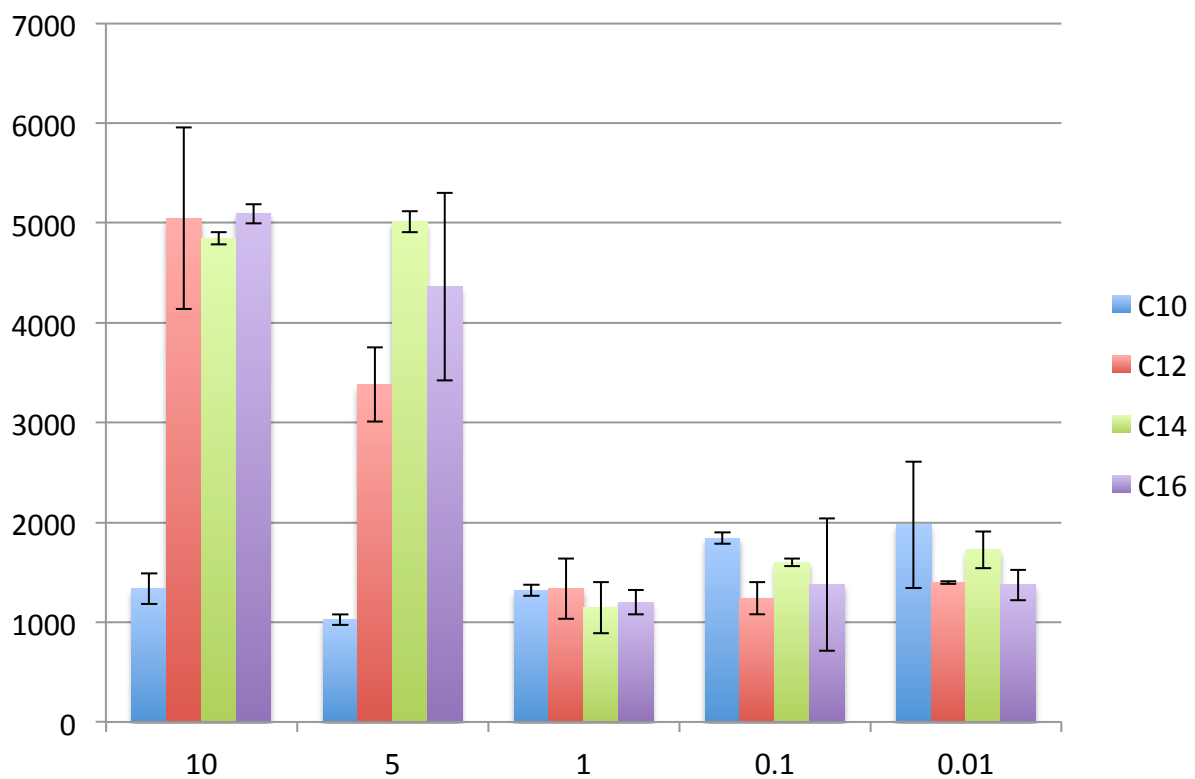


Figure S7. Cell membrane permeability test using CytoTox-ONE™ Homogeneous Membrane Integrity Assay (which measures the release of lactate dehydrogenase) indicates that no BAC leads to membrane leakage at 1 uM or lower, while BAC-C12, C14 and C16 led to membrane leakage at 5 and 10 uM. BAC-C10 did not lead to leakage at any concentration. Higher fluorescence intensity indicates more leakage.