**Supplemental Data**

**Oxysterol signatures distinguish age-related macular degeneration from physiologic aging**

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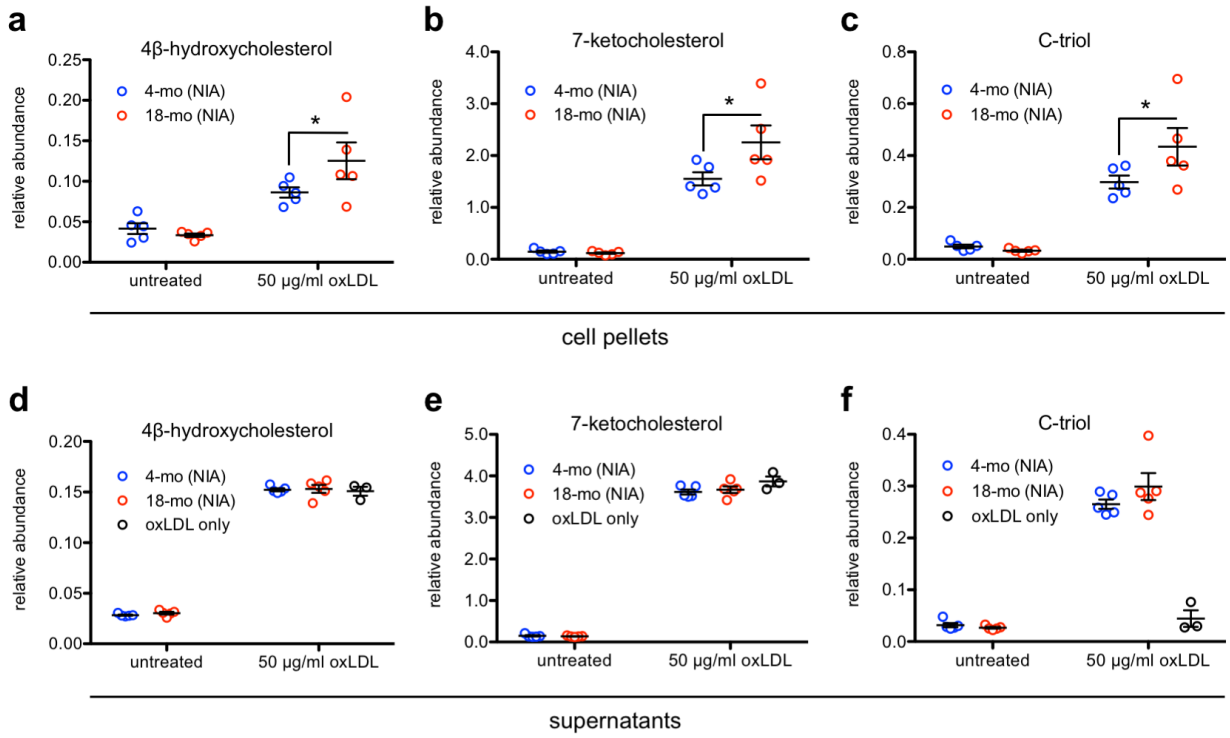
**Inventory of Supplemental Information**

**Supplemental Table S1.** Lipid-related gene assays used in custom array plate.

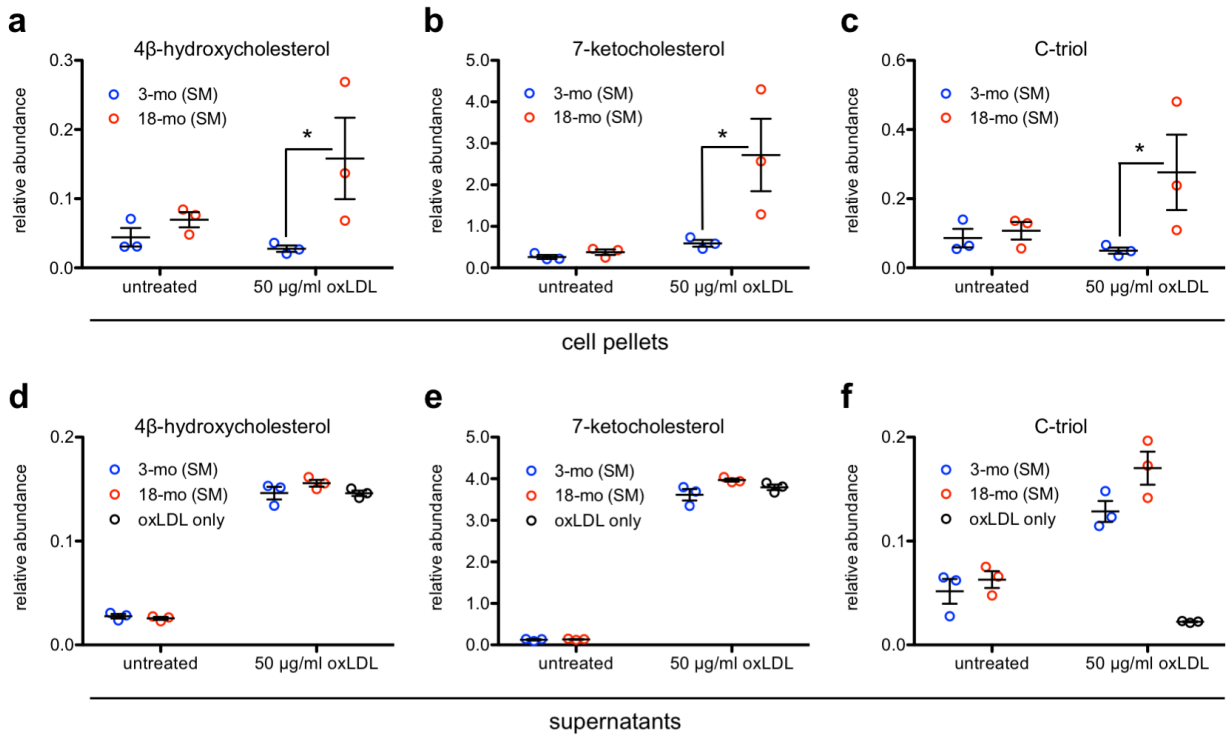
| Gene target | TaqMan® assay probe |
|---|---|
| 18sRNA | Hs99999901_s1 |
| Actb | Mm00607939_s1 |
| Abca1 | Mm00442646_m1 |
| Abca2 | Mm00431553_m1 |
| Abcg1 | Mm00437390_m1 |
| Acaa2 | Mm00624282_m1 |
| Akr1d1 | Mm01165275_m1 |
| Angptl3 | Mm00803820_m1 |
| Ankra2 | Mm00499234_m1 |
| Apoa1 | Mm00437569_m1 |
| Apoa2 | Mm00442687_m1 |
| Apoa4 | Mm00431814_m1 |
| Apob | Mm01545156_m1 |
| Apoc3 | Mm00445670_m1 |
| Apod | Mm00431817_m1 |
| Apoe | Mm00437573_m1 |
| Apof | Mm00506066_g1 |
| Apol8 | Mm01195284_m1 |
| Cdh13 | Mm00490584_m1 |
| Cel | Mm00486975_m1 |
| Cnbp | Mm00488938_m1 |
| Colec12 | Mm01236238_m1 |
| Cxcl16 | Mm00469712_m1 |
| Cyb5r3 | Mm00504077_m1 |
| Cyp11a1 | Mm00490735_m1 |
| Cyp39a1 | Mm00517066_m1 |
| Cyp46a1 | Mm00487306_m1 |
| Cyp51 | Mm00490968_m1 |
| Cyp7a1 | Mm00484152_m1 |
| Cyp7b1 | Mm00484157_m1 |
| Dhcr24 | Mm00519071_m1 |
| Dhcr7 | Mm00514571_m1 |
| Ebp | Mm00468191_m1 |
| Ela3/Cela3b | Mm00840378_m1 |
| Fdft1 | Mm00815354_s1 |
| Fdps | Mm00836315_g1 |
| Hdlbp | Mm00505507_m1 |
| Hmgcr | Mm01282499_m1 |
| Hmgcs1 | Mm01304569_m1 |
| Hmgcs2 | Mm00550050_m1 |
| Idi1 | Mm01337454_m1 |

| | |
|---|---|
| Idi2 | Mm00841471_g1 |
| Il4 | Mm00445259_m1 |
| Insig1 | Mm00463389_m1 |
| Insig2 | Mm00460121_m1 |
| Lcat | Mm00500505_m1 |
| Ldlr | Mm00440169_m1 |
| Ldlrap1 | Mm00521157_m1 |
| Lep | Mm00434759_m1 |
| Lipe | Mm00495359_m1 |
| Lrp10 | Mm00499125_m1 |
| Lrp12 | Mm01168065_m1 |
| Lrp1b | Mm00466712_m1 |
| Lrp6 | Mm00999795_m1 |
| Lrpap1 | Mm00660272_m1 |
| Mbtps1 | Mm00490600_m1 |
| Mvd | Mm00507014_m1 |
| Mvk | Mm00445773_m1 |
| Npc1l1 | Mm01191972_m1 |
| Nr0b2 | Mm00442278_m1 |
| Nr1h4 | Mm01240553_m1 |
| Nsdhl | Mm00477897_m1 |
| Olr1 | Mm00454586_m1 |
| Osbpl1a | Mm00498552_m1 |
| Osbpl5 | Mm00600357_m1 |
| Pcsk9 | Mm01263610_m1 |
| Pmvk | Mm01212763_m1 |
| Ppard | Mm00803184_m1 |
| Prkaa1 | Mm01296700_m1 |
| Prkaa2 | Mm01264789_m1 |
| Prkag2 | Mm00513977_m1 |
| Scap | Mm01250183_g1 |
| Scarf1 | Mm01240399_m1 |
| Snx17 | Mm01220541_g1 |
| Soat1 | Mm00486279_m1 |
| Soat2 | Mm00448823_m1 |
| Sorl1 | Mm01169562_m1 |
| Srebf1 | Mm00550338_m1 |
| Srebf2 | Mm01306292_m1 |
| Stab1 | Mm00460390_m1 |
| Stab2 | Mm00454684_m1 |
| Stard3 | Mm00445520_m1 |
| Tm7sf2 | Mm01233546_g1 |
| Trerf1 | Mm01278040_m1 |

| | |
|---|---|
| Vldlr | Mm00443281_m1 |
| Zmynd15 | Mm02600120_g1 |
| Acat1 | Mm00507463_m1 |
| Acadvl | Mm00444296_m1 |
| Adfp/Plin2 | Mm00475794_m1 |
| Alox12 | Mm00545833_m1 |
| Alox15 | Mm01250458_m1 |
| Alox5 | Mm01182743_m1 |
| Alox5ap | Mm00802100_m1 |
| Cd36 | Mm00432403_m1 |
| Gapdh | Mm99999915_g1 |
| Cyp27a1 | Mm00470430_m1 |
| Fabp4 | Mm00445878_m1 |
| Fabp5 | Mm00783731_s1 |
| Fads1 | Mm00507605_m1 |
| Fads2 | Mm00517221_m1 |
| Fads3 | Mm00517643_m1 |
| Gyk | Mm00433896_m1 |
| Hadhb | Mm00523880_g1 |
| Lta4h | Mm01246216_m1 |
| Ltc4s | Mm00521864_m1 |
| Lpl | Mm00434770_m1 |
| Nr1h3 | Mm00443451_m1 |
| Pla2g4a | Mm00447040_m1 |
| Pparg | Mm01184322_m1 |
| Slc16a6 | Mm00506192_m1 |
| Slc27a1 | Mm00449511_m1 |
| Slc27a3 | Mm01220009_g1 |
| Stard4 | Mm00505395_m1 |
| Scd1 | Mm00772290_m1 |
| Tbxas1 | Mm00495553_m1 |
| Ucp2 | Mm00627599_m1 |




**Supplemental Figure S1.** Aged peritoneal macrophages have abnormal oxysterol content compared to young peritoneal macrophages isolated from mice housed at the same facility. (a-c) Aged peritoneal macrophages contained significantly more intracellular 4β-hydroxycholesterol (4β-HC), 7-ketocholesterol (7-KC), and cholestane-3β,5α,6β-triol (C-triol) than their young counterparts after treatment with 50 µg/ml oxidized LDL (oxLDL) (N = 5/group; 1-tailed Mann-Whitney U test). (d-f) The supernatant of young and aged peritoneal macrophages contained similar levels of 4β-HC, 7-KC, and C-triol both at baseline and after treatment with oxLDL (N = 5/group; 2-tailed Mann-Whitney U test). Open circles depict individual data points; horizontal lines depict mean ± S.E.M. (a-f) (* $P < .05$).




**Supplemental Figure S2.** Aged splenic macrophages (SM) have abnormal oxysterol content compared to young SM. (a-c) Aged SM contained significantly more intracellular 4β-hydroxycholesterol (4β-HC), 7-ketocholesterol (7-KC), and cholestane-3β,5α,6β-triol (C-triol) compared to their young counterparts after treatment with 50 μg/ml oxidized LDL (oxLDL) (N = 3/group; 1-tailed Mann-Whitney U test). (d-f) The supernatant of young and aged SM contained similar levels of 4β-HC, 7-KC, and C-triol both at baseline and after treatment with oxLDL (N = 3/group; 2-tailed Mann-Whitney U test). Open circles depict individual data points; horizontal lines depict mean ± S.E.M. (a-f) (* $P < .05$).