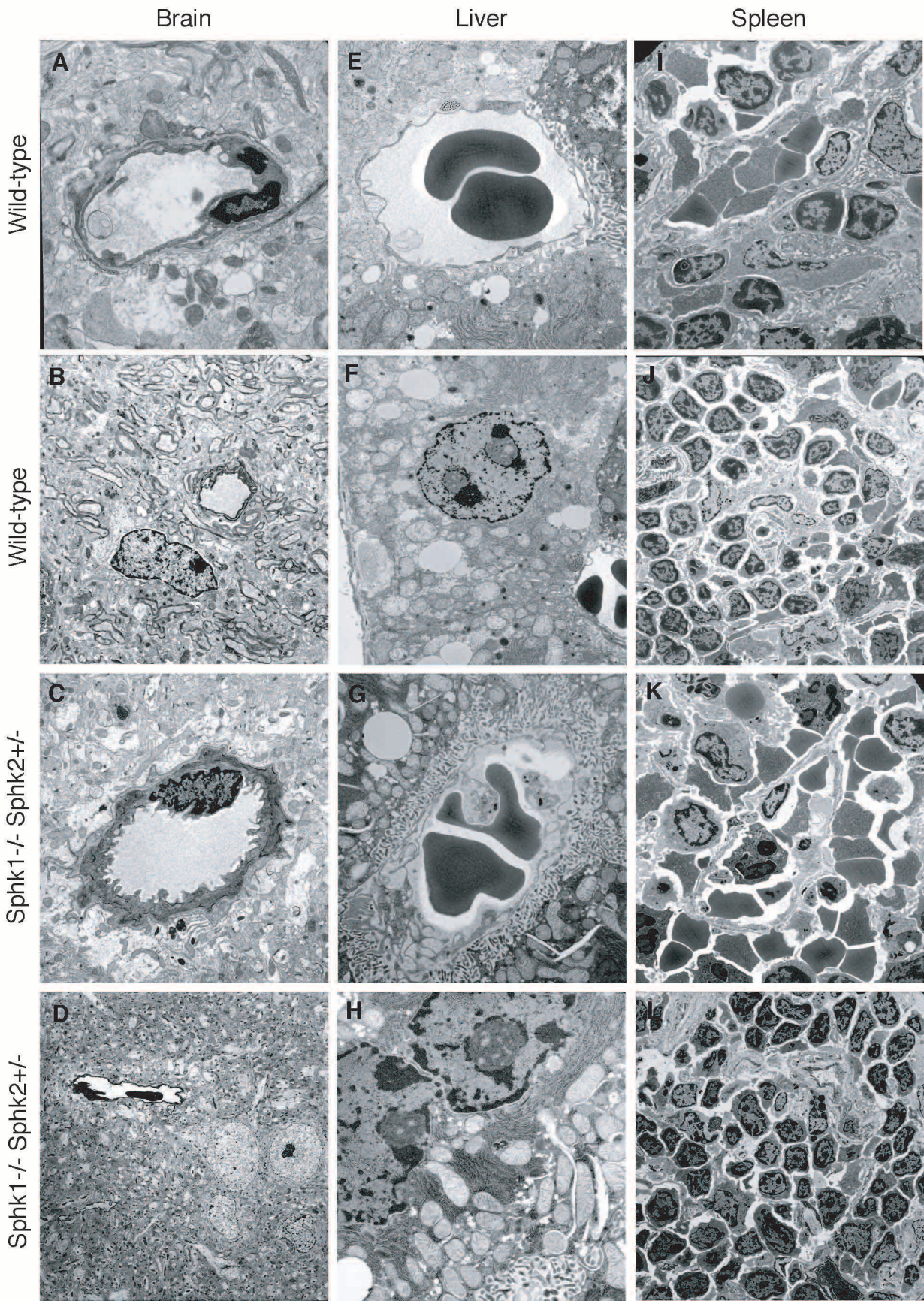
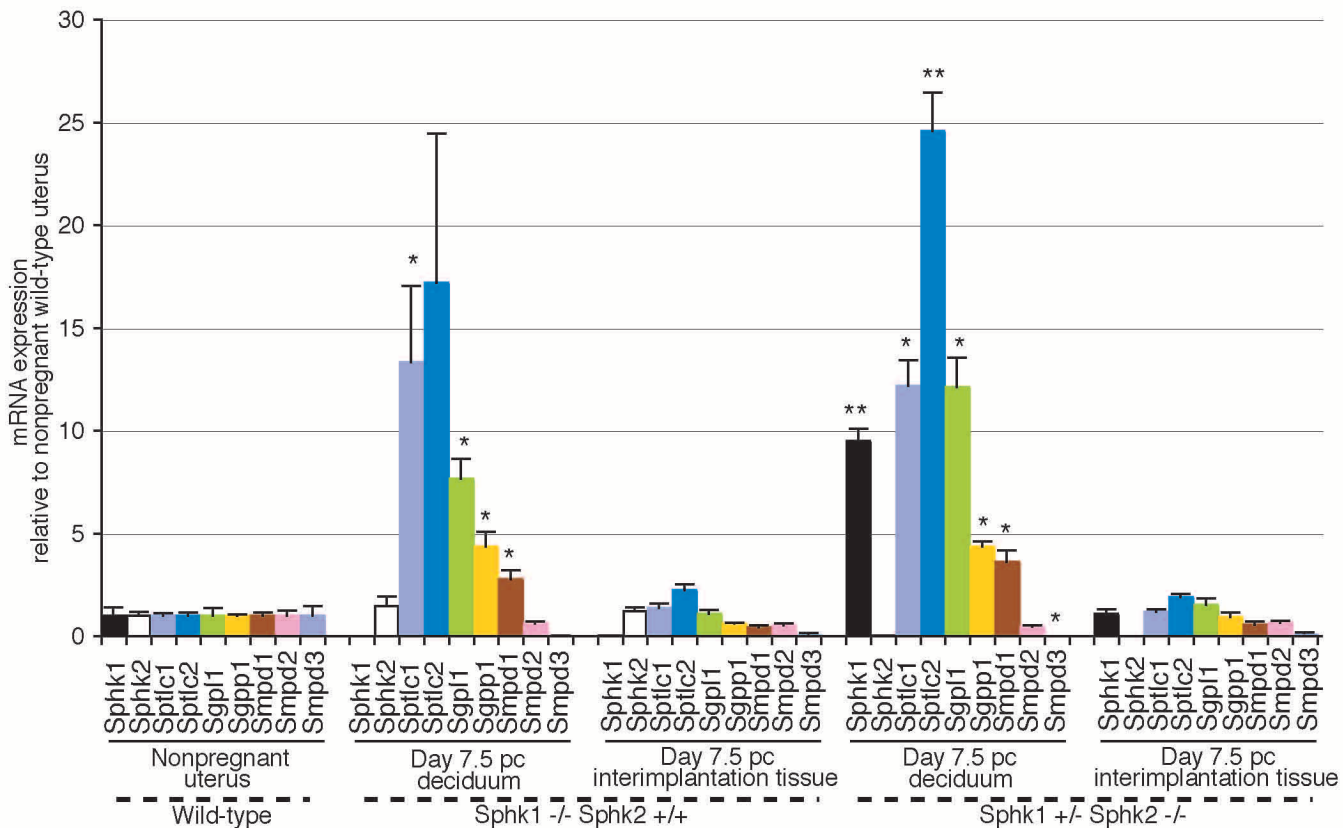


Supplemental Figure 1

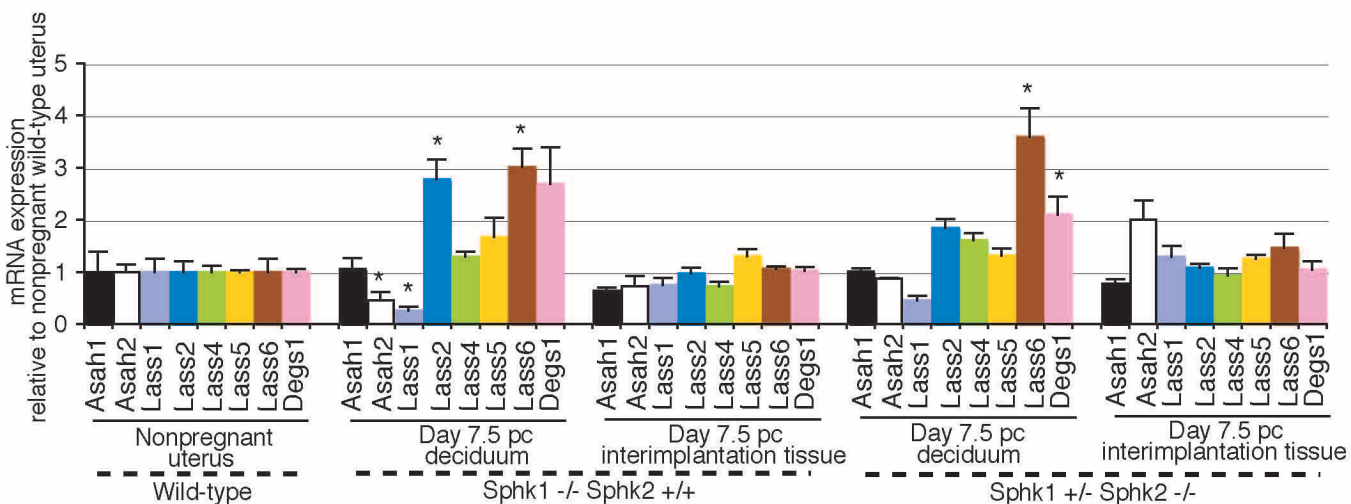


Supplemental Figure 2

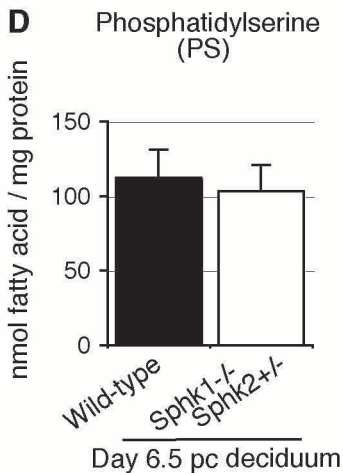
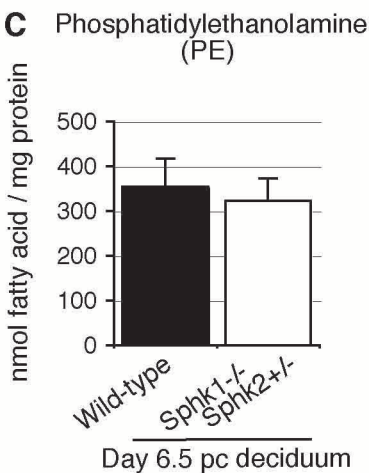
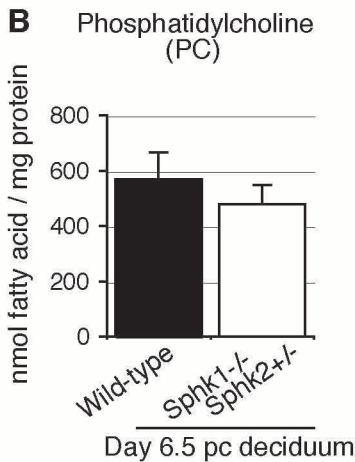
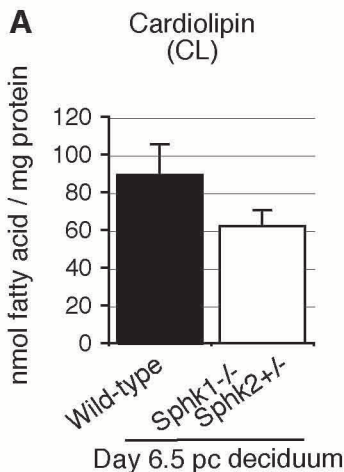
A



B



Supplemental Figure 3



Supplemental Figure 1

Transmission electron microscopic analysis of brain, liver and spleen from day 7.5 pc wild-type and day 7.5 pc *Sphk1*^{-/-} *Sphk2*^{+/-} females. (A) Blood vessel in wild-type brain. (B) Brain cells in wild-type mice. (C) Blood vessel in *Sphk1*^{-/-} *Sphk2*^{+/-} brain. (D) Brain cells in *Sphk1*^{-/-} *Sphk2*^{+/-} mice. (E) Blood vessel in wild-type liver. (F) Hepatocytes in wild-type mice. (G) Blood vessel in *Sphk1*^{-/-} *Sphk2*^{+/-} liver. (H) Hepatocytes in *Sphk1*^{-/-} *Sphk2*^{+/-} mice. (I) Blood vessel in wild-type spleen. (J) Splenocytes in wild-type mice. (K) Blood vessel in *Sphk1*^{-/-} *Sphk2*^{+/-} spleen. (L) Splenocytes in *Sphk1*^{-/-} *Sphk2*^{+/-} mice. Magnification: x10,000 (A and H); x3,150 (B and I); x4,000 (C and F); x1,600 (D, J and L); 6,300 (E and G); 2,500 (K).

Supplemental Figure 2

The expression levels of enzymes involved in sphingolipid metabolism during pregnancy. Relative mRNA expression of *Sphk1*, *Sphk2*, *Sptlc1*, *Sptlc2*, *Sgpl1*, *Sgpp1*, *Smpd1*, *Smpd2*, *Smpd3*, *Asah1*, *Asah2*, *Lass1*, *Lass2*, *Lass4*, *Lass5*, *Lass6*, and *Degs1* in pregnant day 7.5 pc decidua and day 7.5 pc interimplantation tissues from *Sphk1*^{-/-} *Sphk2*^{+/+} and *Sphk1*^{+/-} *Sphk2*^{-/-} females as determined by real-time PCR. The expression levels are shown relative to those in nonpregnant wild-type uteri. The data represent mean values ± SE, and were compared between day 7.5 pc decidua and day 7.5 pc interimplantation tissues (n=3, * *P* < 0.05, ** *P* < 0.01, paired *t*-test).

Supplemental Figure 3

Measurement of glycerophospholipid levels. Cardiolipin (A), phosphatidylcholine (B), phosphatidylethanolamine (C), and phosphatidylserine (D) levels were determined in pregnant day 6.5 pc decidua from wild-type and *Sphk1*^{-/-} *Sphk2*^{+/-} female mice. The data represent mean values \pm SE (n=3).