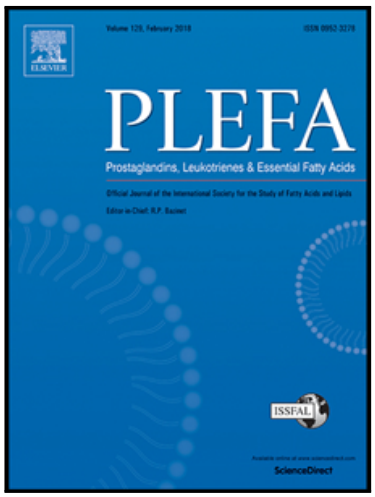

A diet enriched in longer chain omega-3 fatty acids reduced placental inflammatory cytokines and improved fetal sustainability of C57BL/6 mice

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Highlights

- Omega (n)-3 polyunsaturated fatty acids (PUFA) are important regulators of inflammatory response that may impact pregnancy outcome.
- Fish oil based (FO) diet increased the incorporation of longer chain n-3 PUFA into the placenta, and decreased the concentration of pro-inflammatory cytokines.
- FO diet increased the mRNA expression of placental specific PUFA transporter, which coincided with accretion of n-3 PUFA in fetal brain.
- FO diet altered the levels of cytokines at different stages of pregnancy.
- Diet induced alterations in reproductive tissues fatty acid composition and cytokines levels may influence fetal sustainability.