

Supplementary Tables for Satokar et al. Toxicity of oxidised fish oil in pregnancy – a dose response study in rats.

Supplementary Table 1. Fold change in placental gene expression (GD20) in male placenta across different groups of gene pathways

Gene pathways	Fold change					p ¹
	Control	PV5	PV10	PV40	PV40 (1ml)	
Production of antioxidant enzymes						
gpx2	1.0 (0.5)	1.7 (0.5)	1.6 (0.5)	4.8 (1.1)*†	12.2 (2.9)*†	0.01
gpx8	1.0 (0.4)	1.7 (0.4)	1.9 (0.6)	5.9 (2.0)*†	13.2 (4.0)*†	0.02
mpo	1.0 (0.6)	1.5 (1.2)	1.7 (0.4)	6.9 (2.9)*†	26.2 (4.3)*†	0.03
sod2	1.0 (0.5)	1.4 (0.5)	1.6 (0.4)	9.3 (4.5)*†	17.0 (7.6)*†	0.01
Production of reactive oxygen species						
nox4	1.0 (0.4)	1.4 (0.4)	1.2 (0.3)	4.3 (1.9)*	16.0 (2.9)*†	0.01
noxal	1.0 (0.5)	1.7 (0.5)	1.9 (0.5)	3.4 (1.4)*	14.5 (4.5)*†	0.01
noxol	1.0 (0.6)	1.9 (0.6)	2.0 (0.5)	3.1 (1.3)*	7.7 (4.1)*†	0.05
Inflammation						
il10ra	1.0 (0.4)	1.3 (0.6)	1.5 (0.3)	4.7 (1.1)*†	8.9 (2.7)*†	0.01
il1r1	1.0 (0.5)	2.2 (0.6)	1.7 (0.6)	10.3 (4.1)*†	22.5 (4.5)*†	0.05
il1rn	1.0 (0.4)	1.3 (0.5)	1.6 (0.6)	3.1 (1.2)	10.7 (2.6)*†	0.02
il6r	1.0 (0.4)	1.7 (0.3)	2.0 (0.5)	11.7 (3.0)*†	23.3 (5.7)*†	0.01
nfkbl	1.0 (0.5)	1.7 (0.4)	2.1 (0.6)	4.9 (2.0)*†	19.7 (4.1)*†	0.04
tlr1	1.0 (0.5)	1.6 (0.3)	1.9 (0.5)	6.4 (2.1)	10.2 (4.9)	0.06
Carrier proteins						
slc41a3	1.0 (0.4)	1.5 (0.5)	1.8 (0.3)	5.2 (1.2)*†	19.9 (5.3)*†	0.04

Data are means (SE). ¹p value column represents the one-way ANOVA p value. n=6 per group

*p<0.05, **p<0.01 vs control. †p<0.05, ††p<0.01 vs PV5.

Supplementary Table 2. Fold change in placental gene expression (GD20) in female placenta across different groups of gene pathways

Gene pathway	Fold change					p ¹
	Control	PV5	PV10	PV40	PV40 (1ml)	
Production of antioxidant enzymes						
gpx2	1.0 (0.5)	1.6 (0.7)	1.7 (0.4)	2.8 (0.6)	10.4 (7.3)	0.06
gpx7	1.0 (0.5)	1.3 (0.6)	1.4 (0.3)	5.5 (1.8)*†	13.1 (5.4)*†	0.02
nqo	1.0 (0.4)	1.9 (0.5)	1.5 (0.4)	4.1 (1.5)*	9.8 (2.1)*†	0.03
sod3	1.0 (0.3)	1.8 (0.5)	1.2 (0.3)	3.1 (1.4)*	10.2 (3.9)*†	0.06
Production of reactive oxygen species						
noxal	1.0 (0.4)	1.7 (0.3)	1.6 (0.4)	4.8 (1.3)*†	18.8 (8.1)**††	0.001
Inflammation						
il7r	1.0 (0.5)	1.4 (0.3)	1.5 (0.4)	5.9 (2.4)	7.9 (4.9)	0.06
tlr6	1.0 (0.4)	1.5 (0.4)	1.9 (0.4)	3.8 (1.7)*	12.3 (4.2)**††	0.002
crp	1.0 (0.5)	1.2 (0.5)	2.0 (0.4)	3.5 (1.1)*	8.1 (3.4)*†	0.05
Insulin signalling						
frs3	1.0 (0.4)	0.9 (0.2)	0.5 (0.1)	0.2 (0.04)*†	0.09 (0.01)*†	0.01
Gluconeogenesis						
gck	1.0 (0.6)	1.7 (0.4)	1.1 (0.5)	6.5 (3.1)	8.1 (5.9)	0.06

Data are means (SE). ¹p value column represents the one-way ANOVA p value. n=6 per group

*p<0.05, **p<0.01 vs control. †p<0.05, ††p<0.01 vs PV5.

Supplementary Table 3. List of genes included in TaqMan Array Card

Gene pathway	Name of genes
Carbohydrate metabolism	
Fbp1	fructose-1,6-bisphosphatase 1
Frs2	fibroblast growth factor receptor substrate 2
Frs3	fibroblast growth factor receptor substrate 3
G6pc	glucose-6-phosphatase, catalytic subunit
Gab1	GRB2-associated binding protein 1
Gcg	glucagon
Gck	glucokinase
Gpd1	glycerol-3-phosphate dehydrogenase 1 (soluble)
Grb2	growth factor receptor bound protein 2
Gsk3b	glycogen synthase kinase 3 beta
Igf1r	insulin-like growth factor 1 receptor
Igf2	insulin-like growth factor 2
Igfbp1	insulin-like growth factor binding protein 1
Insr	insulin receptor
Irs1	insulin receptor substrate 1
Irs2	insulin receptor substrate 2
Jun	jun proto-oncogene
Map2k1	mitogen activated protein kinase kinase 1
Mapk1	mitogen activated protein kinase 1
Pck2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)
Pdpk1	3-phosphoinositide dependent protein kinase-1
Pik3ca	phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit alpha
Pik3cb	phosphatidylinositol-4,5-bisphosphate 3-kinase, catalytic subunit beta
Pik3r1	phosphoinositide-3-kinase, regulatory subunit 1 (alpha)
Pik3r2	phosphoinositide-3-kinase, regulatory subunit 2 (beta)
Ppp1ca	protein phosphatase 1, catalytic subunit, alpha isozyme
Prkcg	protein kinase C, gamma
Prkcz	protein kinase C, zeta
Lipid metabolism	
Fasn	fatty acid synthase
Ptpn1	protein tyrosine phosphatase, non-receptor type 1
Ldlr	low density lipoprotein receptor
Lep	leptin
Pklr	pyruvate kinase, liver and RBC
Pparg	peroxisome proliferator-activated receptor gamma
Srebf1	sterol regulatory element binding transcription factor 1
Npy	pro-neuropeptide Y-like,neuropeptide Y
Vegfa	vascular endothelial growth factor A
Inflammation	
Bcl6	B-cell CLL/lymphoma 6
Crp	C-reactive protein, pentraxin-related
Ifng	interferon gamma
Il10	interleukin 10
Il10ra	interleukin 10 receptor, alpha

Il15	interleukin 15
Il18	interleukin 18
Il1a	interleukin 1 alpha
Il1b	interleukin 1 beta
Il1r1	interleukin 1 receptor, type I
Il1rn	interleukin 1 receptor antagonist
Il22	interleukin 22
Il23a	Interleukin 23, alpha subunit p19
Il27	interleukin 27
Il3	interleukin 3
Il6	interleukin 6
Il6r	interleukin 6 receptor
Il7	interleukin 7
Il9	interleukin 9
Itgb2	integrin, beta 2
Nfkb1	nuclear factor of kappa light polypeptide gene enhancer in B-cells 1
Tirap	toll-interleukin 1 receptor (TIR) domain-containing adaptor protein
Tlr1	toll-like receptor 1
Tlr2	toll-like receptor 2
Tlr4	toll-like receptor 4
Tlr6	toll-like receptor 6
Tlr7	toll-like receptor 7
Tnf	tumor necrosis factor
Apoe	apolipoprotein E
Production of antioxidant enzymes	
Dhcr24	24-dehydrocholesterol reductase
Gpx1	glutathione peroxidase 1
Gpx2	glutathione peroxidase 2
Gpx3	glutathione peroxidase 3
Gpx4	glutathione peroxidase 4
Gpx5	glutathione peroxidase 5
Gpx6	glutathione peroxidase 6
Gpx7	glutathione peroxidase 7
Gpx8	glutathione peroxidase 8
Gsr	glutathione reductase
Gstk1	glutathione S-transferase kappa 1
Mpo	myeloperoxidase
Ptgs1	prostaglandin-endoperoxide synthase 1
Ptgs2	prostaglandin-endoperoxide synthase 2
Sod1	superoxide dismutase 1, soluble
Sod2	superoxide dismutase 2, mitochondrial
Sod3	superoxide dismutase 3, extracellular
Production of reactive oxygen species	
Nox4	NADPH oxidase 4
Noxa1	NADPH oxidase activator 1
Noxo1	NADPH oxidase organizer 1
Nqo1	NAD(P)H dehydrogenase, quinone 1

Nos2	nitric oxide synthase 2, inducible
Carrier proteins	
Slc38a1	solute carrier family 38, member 1
Slc38a4	solute carrier family 38, member 4
Slc41a3	solute carrier family 41, member 3
Housekeeping genes	
Hprt1	hypoxanthine phosphoribosyltransferase 1
Rplp2	ribosomal protein, large P2
Ubc	ubiquitin C
Ywhaz	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta
18S	Eukaryotic 18S rRNA