

Supplementary Table S1. Targeted identification of differentially accumulated metabolites in liver tissue of F3 generation animals derived from early embryos exposed to the combination of multiple ovulations, vitrification and embryo transfer (MOVET) and naturally-conceived (NC). The negative values are down-accumulated metabolites in the MOVET group, while the positive are up-accumulated.

Metabolic pathway	Metabolite name	Fold change (Log2 MOVET/NC)
Biosynthesis of amino acids	Arginine	0.13
	Asparagine	0.26
	Aspartate	0.28
	Cysteine	-2.00
	Glutamic_acid	0.29
	Glutamine	-0.15
	Histidine	0.23
	Isoleucine-leucine	0.46
	Lysine	0.05
	Methionine	0.27
	Phenylalanine	0.24
	Proline	0.28
	Serine	-1.65
	Threonine	0.31
	Tryptophan	-1.07
	Tyrosine	0.35
	Valine	0.72
Arachidonic acid metabolism	11-dehydro_Thromboxane_B2	0.12
	Hepoxilin_A3	0.32
	Leukotriene_F4	0.17
	Prostaglandin_B2	-0.38
	Prostacyclin	0.08
	11,14,15-theta	0.39
	15-Keto-prostaglandin_f2alpha	-0.52
	6-ketoprostaglandin_e1	0.17
	Trioxilin_A3	0.18
	11,14,15-theta	-0.34
Linoleic acid metabolism	5,6-Dihydroxy-8Z,11Z,14Z-eicosatrienoic_acid	0.24
	5-hete	-0.47
	5-oxo-ete	-0.38
	6-ketoprostaglandin_e1	-0.16
	Lecithins	-1.15
	Tetrahydro-3,4-furandiol	-0.10
	Prostacyclin	-0.38
	14,15,19-/14,15,20-trihydroxy-5,8,11-eicosatri	-0.42
	11(12)oxido-5,8,14-eicosatrienoic_acid	-0.52

	14,15-dihydroxy-5,-8,11-eicosatrienoic_acid	-0.60
	11,12,19-/11,12,20-trihydroxy-5,8,14-eicosatri	-0.53
	5(6)oxido-8,11,14-eicosatrienoic_acid	-0.86
	PC_(36:5)	-0.93
	PC_(38:7)	-0.15
	PC_(34:4)	-0.75
	PC_(30:3)	-0.65
	PC_(40:6)	-0.15
	PC_(38:6)	-0.39
	PC_(36:4)	-0.76
	PC_(30:0)	-0.82
	PC_(34:1)	-0.36
	PC_(34:2)	-0.61
	PC_(38:5)	-0.61
	PC_(36:3)	-0.61
	PC_(38:4)	-0.62
	PC_(34:0)	-0.45
	PC_(32:1)	-0.65
	PC_(36:1)	-0.73
	PC_(32:0)	-0.30
	PC_(36:2)	-0.81
	PC_(40:5)	-0.91
	PC_(34:6)	-0.82
Glycolysis Gluconeogenesis	2-hydroxy-ethyl-thpp	0.65
	Camp	0.47
	Glucose	-0.41
	Glyceraldehyde-3P	0.14
	Glycerate-1,3P2	-0.21
	Glycerate-3P	2.57
	β -D-Fructose-1,6P2	-0.44
	β -D-Glucose-6P	0.15
	Thpp	1.65
	S-acetyl-dihydrolipoamide-e	0.34
	Lipoamide-E	-0.34
Oxidative phosphorylation	Adenosine_diphosphate	0.05
	Fad2+	-0.13
	Fumarate	0.41
	Gluconate	-0.15
	Glucose	-0.41
	Nadh	1.05
	Succinate	0.02
Biosynthesis of unsaturated fatty acids	Adrenic_acid	-0.77

	Arachidic_acid	-0.48
	Arachidonic_acid	-0.58
	Behenic_acid	-0.61
	Docosadienoic_acid	-0.49
	Docosahexaenoic_acid	-0.36
	Docosapentaenoic_acid	-0.71
	Erucic_acid	-0.17
	Icosadienoic_acid	-0.18
	Icosapentaenoic_acid	-0.35
	Icosatrienoic_acid	-0.32
	Icosenoic_acid	-0.10
	Lignoceric_acid	-0.42
	Linoleic_acid	-0.67
	Nervonic_acid	-0.63
	Oleic_acid	-0.48
	A-Linolenic_acid	-0.58
	Palmitic_acid	-0.28
	Stearic_acid	-0.20
Steroid biosynthesis	24-epi-Campesterol	-0.70
	24-methylenecholesterol	2.87
	5-dehydroavenasterol	0.18
	7-dehydrocholesterol	-0.16
	7alpha,24-Dihydroxy-4-cholesten-3-one	-0.44
	Episterol	-0.34
	Lathosterol	-0.26
	Secalciferol	-0.79
	3alpha,7alpha-Dihydroxy-5beta-cholestanate	-0.04
	S-squalene_2,3-epoxide	-0.56
	22(r)-hydroxycholesterol	-0.98
	3alpha,7alpha,26-Trihydroxy-5beta-cholestan	-0.10
	Calcidiol	-0.06
	14-demethyllanosterol	0.01
	4alpha-Methylzymosterol-4-carboxylate	0.92
	Squalene	-0.54
	3alpha,7alpha,12alpha,26-Tetrahydroxy-5beta	0.80
	Calcitriol	-0.62
	Cholesterol	-0.14
	7-dehydridesmosterol	-0.99
	Campesterol	-0.10
	3alpha,7alpha-Dihydroxy-5beta-cholestane	-0.29
	Pregnenolone	-0.66
	Calcitretol	0.90

	4alpha-Methylzymosterol	-0.52
Steroid hormone biosynthesis	Cortisol	-0.30
	6 β hydroxy testosterone	0.07
	Aldosterone	-0.52
	Androsterone	-0.14
	B-Estradiol	-0.20
	Corticosterone	0.35
	Cortol	-0.37
	Cortolone	-0.45
	Estriol	-0.19
	Methoxyestrone	0.01
	Pregnenolone	0.28
	Progesterone	-0.13
	Testosterone	-0.43
	Cortol	-0.42
	Pregnanediol	-0.49
Glycerolipid metabolism	TAG_(50:1)	-1.86
	TAG_(50:4)	-1.98
	TAG_(54:5)	-1.06
	TAG_(54:9)	-1.36
	TAG_(54:8)	-1.59
	TAG_(52:1)	-1.17
	TAG_(52:2)	-1.11
	TAG_(50:0)	-1.38
Citrate cycle (TCA cycle)	2-hydroxy-ethyl-thpp	0.65
	3-carboxy-1-hydroxypropyl-thpp	-0.85
	Cis-aconitate	0.10
	Citrate	-0.30
	Oxalosuccinate	2.09
	Succinate	0.02
	Thpp	1.65
	S-acetyl-dihydrolipoamide-e	0.34
	Lipoamide-E	-0.34

Red denotes statistical differences at $p < 0.05$.