

Supplementary Table 1. The composition and chemical analysis of the basal diet of pregnant sows. (g/kg as-fed basis if not stated otherwise)

Ingredients (g / kg)		Chemicals composition (g / kg)	
Ground barley	400.0	ME(MJ/kg)	13.7
Ground wheat	163.0	Dry matter	887.0
Ground maize	250.0	Crude protein	132.0
HP300 ^a	100.0	Crude fat	71.7
Premix ^b	65,1	NDF	120.9
Calcium formate	15.2	ADF	40.3
Probiotic ^c	0.7	Ash	45.0
NaCl	6.0	Phosphorus	6.2
Total	1000g	Calcium	8.3
		Fe(mg/kg)	40.0
		Cu(mg/kg)	3.0
		Zn(mg/kg)	15.0
		Mn(mg/kg)	30.0
		Lysine	9.9
		Methionine	2.9
		Threonine	6.8
		Tryptophan	1.8

Supplementary Table 1. ^a Soy protein concentrate. ^b Premix provided the following per kg of diets: Na 0.28 g, Ca 2.15 g, P 0.7 g; Mg 0.1 g; Lysine 0.2 g; Fe 37 mg; Mn 30 mg; I 0.75 mg; Zn 15 mg; Cu 2.55 mg; Co 0.1 mg; Se 0.1 mg, Methionine 50 mg; Threonine 90 mg, Tryptophan 15 mg, Histidine 17 mg, Vitamin A 10000 IU; Vitamin D3 1000 IU; Vitamin E 20 mg; Vitamin K3 1.5 mg; Vitamin B1 0.3 mg; Vitamin B2 0.8 mg; Vitamin B6 1.0 mg; Vitamin B12 10 µg; Niacin 5 mg; Folic acid 0.5 mg; Biotin 20 µg; Nicotinic acid 6.5 mg; Pantothenic acid 8 mg; Choline 25 mg. ^c Bonvital, lactic acid bacteria - Enterococcus faecium (DSM 7134, 4b1841), 1 x 10¹⁰ CFU/g, (SCHAUMANN Agri International GmbH).

Supplementary Table 2. Antibodies used in immunofluorescence analyses.

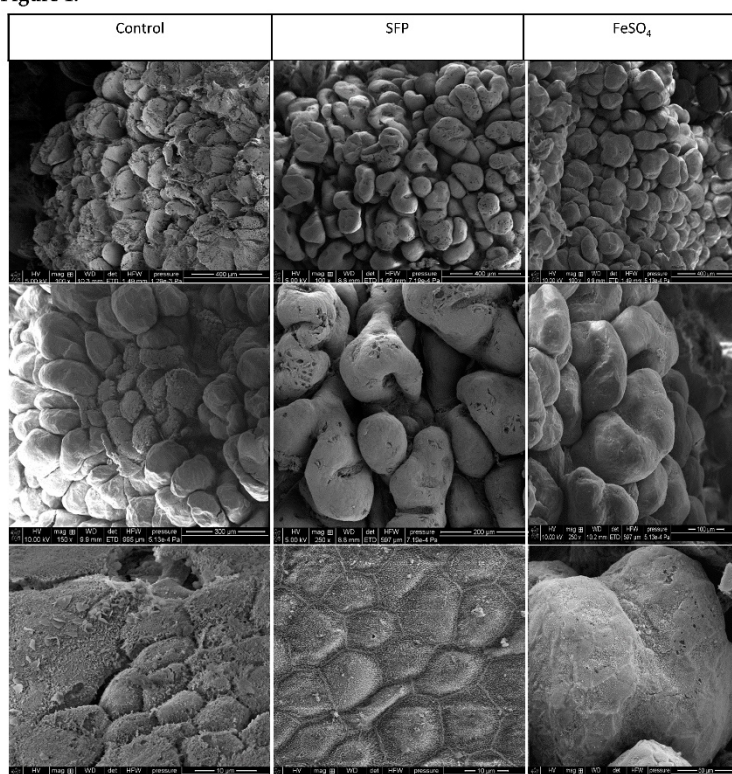
Target protein	Primary Ab	Primary Ab dilution	Secondary Ab	Secondary Ab with fluorochrome	Secondary Ab with fluorochrome dilution
TfR1	Transferrin receptor monoclonal antibody Mouse monoclonal, Thermo Fisher #136800	1:200	Goat anti-mouse polyclonal, #A5278 (Sigma-Aldrich)	Goat anti-Mouse IgG (H+L), Alexa Fluor 594 A-11005 Invitrogen	1:2000

Fpn	Rabbit Anti-Mouse Metal Transporter Protein1/Ferroportin (MTP1/IREG1/Fpn) IgG aff. pure #MTP11-A Alpha Diagnostic Intl. Inc	1:200	Goat anti-rabbit polyclonal, #A6154 (Sigma- Aldrich)	Goat anti-Rabbit IgG (H+L) Alexa Fluor Plus 488 A32731 Invitrogen	1:2000
DMT1	Anti-Human Natural Resistance-Associated Protein 2 (DMT1/NRAMP2, with IRE) #NRAMP22-A Alpha Diagnostic Intl. Inc	1:200	Goat anti-rabbit polyclonal, #A6154 (Sigma- Aldrich)	Goat anti-Rabbit IgG (H+L), Alexa Fluor Plus 488 A32731 Invitrogen	1:2000

Supplementary Table 3. Gene specific primers sequences used in RT-PCR analyses.

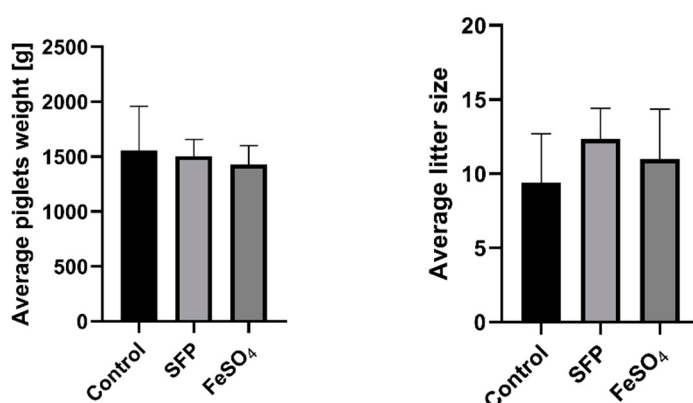
Target gene	Forward primer (5'→3')	Reverse primer (5'→3')	Accession number
Actb	CAACTTCTGCAACGAGCGCTT	GCGCCCCCGAGCCTTGATCTC	AY550069.1
TfR1	AGCCTTACTGTATGCCACGT	ATTATGCCCCTCGTGAAGCT	NM_214001.1
Fpn	TCGCCTAGTGTGTCATGACCAG	CAGAAACACAGACACCGCAA	NM_001128440.1
DMT1	GCAGGTGGTTGACGTCTGTA	CACGCCCCCTTTGTAGATGT	NM_001128440.1
HPRT	GGCCATCACATCGTAGCCCT	TCGCCCCTTGACTGGTCATT	NM_001032376.2
BMP6	TTGTGAACCTGGTGGAGTACG	GATTCCGAATTCTGCAGCCG	NM_001168001.1

Supplementary
Figure 1.



Supplementary Figure 1. Illustration of the surface of placental tissues acquired using T.E.M microscopy. Used magnifications range from 100x, to 3500x.

Supplementary
Figure 2.



Supplementary Figure 2. Pregnancy outcome. One day piglets weight recorded at delivery and presented as mean and S.D for every experimental group in grams, Litter size recorded at delivery, presented as mean and S.D for every experimental group.

SPF – SiderAL® Forte formulation:

INGREDIENTS: - Sucrosomal iron® (iron pyrophosphate – 6 mg of Fe/g of powder, pregelatinized rice starch, saccharic esters of fatty acids, sunflower lecithin supported on glucose syrup, milk proteins, tricalcium phosphate)

