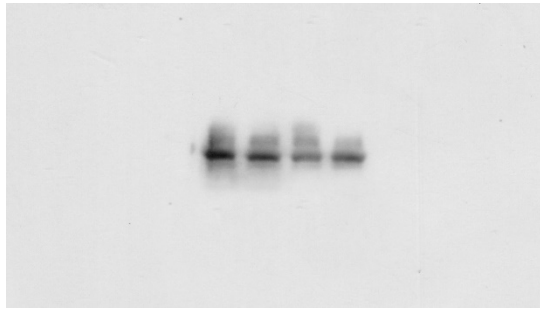


Table S1. Composition of the diets

Diet component	CON	HFD	FA	HFD+FA
Casein (g/kg)	189.57	258.46	189.57	258.46
Corn starch (g/kg)	479.81	n/a	479.81	n/a
Maltodextrin (g/kg)	118.48	161.54	118.48	161.54
Sucrose (g/kg)	65.21	88.91	65.21	88.91
Cellulose (g/kg)	47.39	64.62	47.39	64.62
Pork lard (g/kg)	18.96	316.62	18.96	316.62
Soya bean oil (g/kg)	23.70	32.31	23.70	32.31
Cystine (g/kg)	2.84	3.88	2.84	3.88
Mineral mix (g/kg)	9.48	12.92	9.48	12.92
Vitamin mix without folic acid (g/kg)	9.48	12.92	9.48	12.92
Choline (g/kg)	1.90	2.58	1.90	2.58
Calcium carbonate (g/kg)	5.215.21	7.117.11	5.215.21	7.117.11
Dicalcium phosphate (g/kg)	12.32	16.80	12.32	16.80
Potassium citrate (g/kg)	15.64	21.32	15.64	21.32
Folic acid (mg/kg)	2	2	5	5

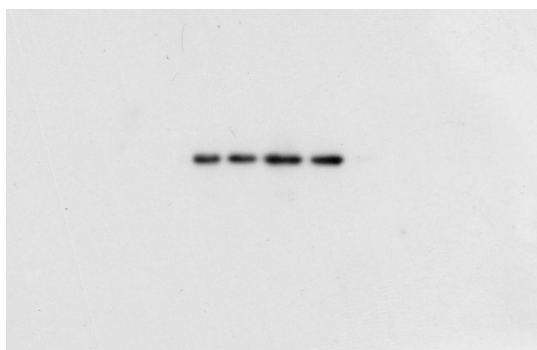
CON, normal fat with normal folic acid diet; HFD, high fat with normal folic acid diet; FA, normal fat with folic acid supplementation diet; HFD+FA, high fat with folic acid supplementation diet; n/a, not applicable.



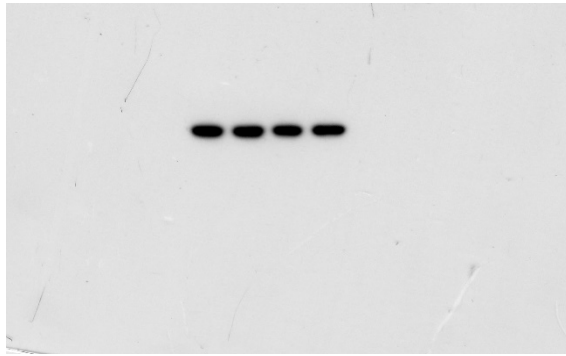
**Figure S1: SIRT1 in the placenta of Western blot.** The molecular mass was 120KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



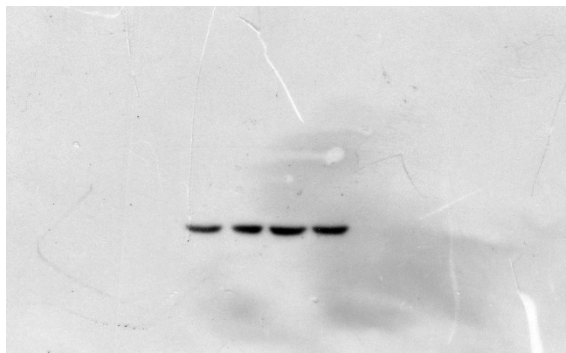
**Figure S2:  $\beta$ -actin in the placenta of Western blot.** The molecular mass was 45KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



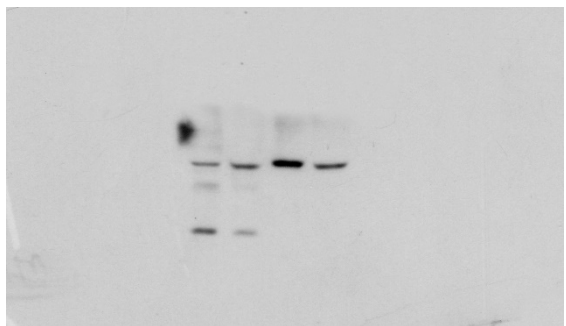
**Figure S3: Nucl p65 in the placenta of Western blot.** The molecular mass was 65KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



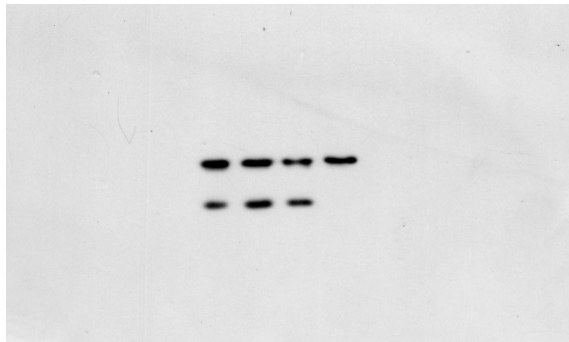
**Figure S4: Lamin B in the placenta of Western blot.** The molecular mass was 68KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



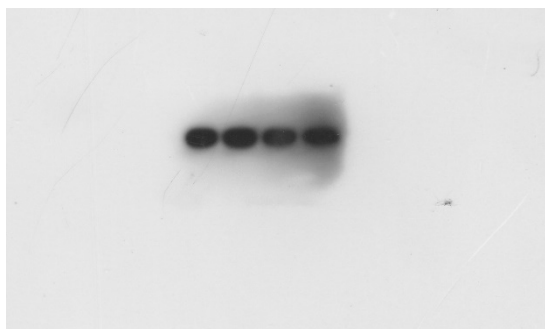
**Figure S5: Cyto p65 in the placenta of Western blot.** The molecular mass was 65KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



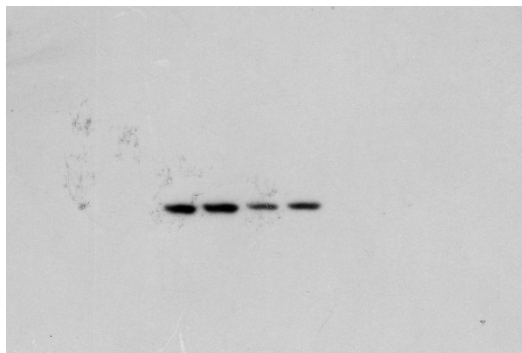
**Figure S6: p-IκBa in the placenta of Western blot.** The molecular mass was 40KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



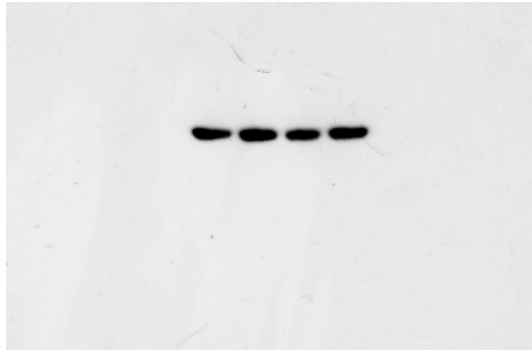
**Figure S7: IkBa in the placenta of Western blot.** The molecular mass was 39KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



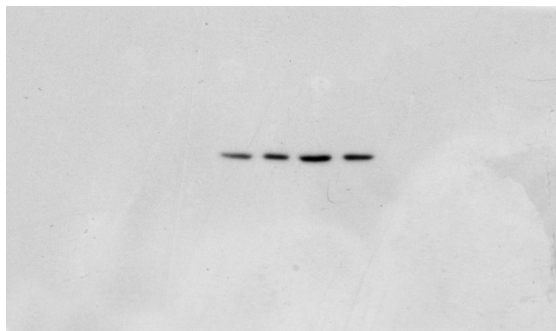
**Figure S8:  $\beta$ -actin in the placenta of Western blot.** The molecular mass was 45KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



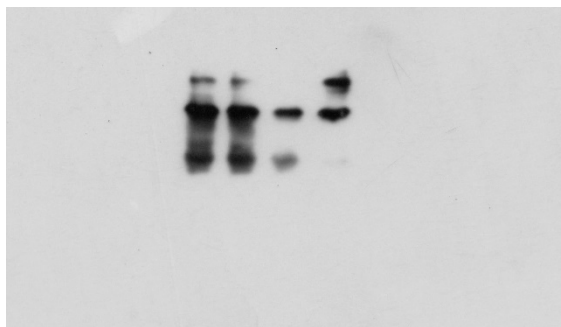
**Figure S9: Nucl Nrf2 in the placenta of Western blot.** The molecular mass was 100KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



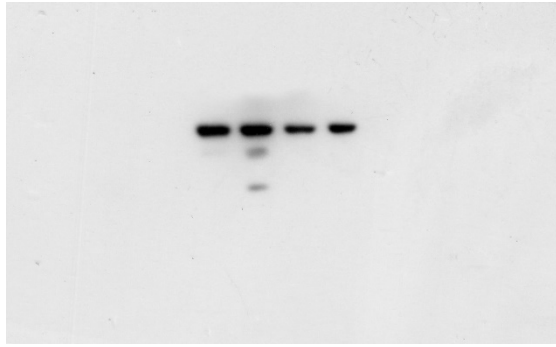
**Figure S10: Lamin B in the placenta of Western blot.** The molecular mass was 68KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



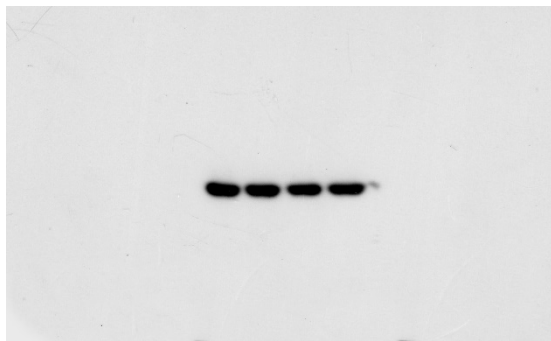
**Figure S11: Cyto Nrf2 in the placenta of Western blot.** The molecular mass was 100KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



**Figure S12: NQO1 in the placenta of Western blot.** The molecular mass was 29KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



**Figure S13: HO-1 in the placenta of Western blot.** The molecular mass was 28KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.



**Figure S14:  $\beta$ -actin in the liver of Western blot.** The molecular mass was 45KD. The sample loading sequence was the CON group, FA group, HFD group and HFD+FA group from left to right.