

Online Supporting Material

Supplemental Table 1. Composition of Harlan Teklad iron control (TD.05656) and iron-deficient (TD.80396) purified diets fed to rats.

| Ingredient | Diet | |
|---|---------|----------------|
| | Control | Iron-Deficient |
| Casein, low Cu & Fe | 200 | 200 |
| DL-Methionine | 3.0 | 3.0 |
| Sucrose | 549 | 550 |
| Corn Starch | 150 | 150 |
| Corn Oil | 50.0 | 50.0 |
| Mineral Mix ² , Fe deficient (81062) | 35.0 | 35.0 |
| Vitamin Mix ³ , AIN-76A (40077) | 10.0 | 10.0 |
| Ferric Citrate ¹ | 1.4 | - |
| Choline Bitartate | 2.0 | 2.0 |
| Ethoxyquin | 0.01 | 0.01 |

¹ The iron-deficient and sufficient (control) diets contained on average 2- 6 and 240 µg Fe/g diet, respectively.

² Vitamin mix contained the following (g/kg mix): thiamin HCl, 0.60; riboflavin, 0.60; pyridoxine HCl, 0.70; niacin, 3.0; calcium pantothenate, 1.60; folic acid, 0.20; biotin, 0.02; vitamin B12, 1.0; dry vitamin A palmitate (500 kIU/g), 0.80; dry vitamin E acetate (500 IU/g), 10.0; vitamin D3 trituration (400 kIU/g), 0.30; menadione sodium bisulfite, 0.20; sucrose, 981.

³ Mineral mix contained the following (g/kg mix): CaHPO₄, 500; NaCl, 74.0; C₆H₇K₃O₈, 220; K₂SO₄, 52.0, MgO, 24.0; MnCO₃, 3.5; ZnCO₃, 1.6; CuCO₃, 0.3; KIO₃, 0.01; Na₂SeO₃ · 5H₂O, 0.01; KCrS₂O₈, 0.6; sucrose 124.

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Supplemental Table 2. Structural characteristics of CC axons from P40 iron-deficient (Fe-) and control (Fe+) rats^{1, 2}

| | Fe + | Fe - | P-values |
|---------------------------------|-------------|-------------|----------|
| N | 3 | 3 | |
| Myelination, % | 92.9 ± 3.3 | 91.6 ± 4.2 | 0.69 |
| Myelin Thickness, μm | 0.08 ± 0.01 | 0.08 ± 0.02 | 1.00 |
| Axon Density ³ | 142 ± 14.1 | 125 ± 25.3 | 0.36 |
| G-Ratio ⁴ | 0.80 ± 0.06 | 0.77 ± 0.02 | 0.49 |
| Lamella, # | 8.21 ± 2.08 | 7.33 ± 2.01 | 0.32 |

¹ Results given as mean ± SEM, data represents 3 litters per diet group, with N representing number of offspring used per diet group.

² Abbreviations used: Fe -, offspring of dams fed iron-deficient diet; Fe +, offspring of dams fed iron-sufficient diet

³ Axon density = axons/100 μm^2 .

⁴ G-ratio = myelinated fiber diameter/axon diameter.