

### Supplementary Figure Legends

**Suppl. Fig. 1.** No significant differences in the number of PDGFR $\alpha$ + OPCs in the corpus callosum of female versus male mice were seen at 3 weeks or 18 months from 0, 6x 6, or 1x 20 Gy radiation exposure. (A) Two-way ANOVA at 3 weeks post-radiation revealed a significant effect of radiation exposure ( $F(2,6)=34.66$ ,  $p=0.0005$ ), but not of sex ( $F(1,6)=1.398$ ,  $p=0.2817$ ) or of the interaction ( $F(2,6)=0.353$ ,  $p=0.7162$ ).  $n=2$ /group. (B) Two-way ANOVA at 18 months post-radiation revealed a significant effect of radiation exposure ( $F(2,41)=25$ ,  $p<0.0001$ ), but not of sex ( $F(1,41)=0.8394$ ,  $p=0.3649$ ) or of the interaction ( $F(2,41)=1.41$ ,  $p=0.2558$ ).  $n=6-9$ /group. Mean  $\pm$  SEM shown.

**Suppl. Fig. 2.** No significant differences in corpus callosum G-ratios were seen between female and male mice at 6 or 18 months from radiation exposure. (A) Two-way ANOVA at 6 months post-radiation revealed no significant effect of radiation exposure ( $F(2,11)=0.2244$ ,  $p=0.8025$ ), sex ( $F(1,11)=0.2592$ ,  $p=0.6208$ ), or the interaction ( $F(2,11)=2.59$ ,  $p=0.1198$ ).  $n=2-3$ /group. (B) Two-way ANOVA at 18 months post-radiation revealed a significant effect of radiation exposure ( $F(2,12)=8.708$ ,  $p=0.0046$ ), but not of sex ( $F(1,12)=0.1753$ ,  $p=0.6828$ ) or of the interaction ( $F(2,12)=1.655$ ,  $p=0.2318$ ).  $n=3$ /group. Mean  $\pm$  SEM shown.

**Suppl. Fig. 3.** No significant sex differences were found in the number of Ankyrin G+ nodes of Ranvier at 6 or 18 months from exposure to 0, 6x 6, or 1x 20 Gy radiation. (A) Two-way ANOVA at 6 months post-radiation revealed no significant effect of radiation exposure ( $F(2,34)=1.088$ ,  $p=0.3484$ ), sex ( $F(1,34)=1.711$ ,  $p=0.1996$ ), or the interaction ( $F(2,34)=2.809$ ,  $p=0.0734$ ).  $n=6-9$ /group. (B) Two-way ANOVA at 18 months post-radiation revealed a significant effect of radiation exposure ( $F(2,40)=7.55$ ,  $p=0.0017$ ), but

not of sex ( $F(1,40)=0.9881$ ,  $p=0.3262$ ) or of the interaction ( $F(2,40)=2.521$ ,  $p=0.0931$ ).  
 $n=6-9$ /group. Mean  $\pm$  SEM shown.

**Suppl. Fig. 4.** No significant differences were found in electrophysiology parameters across the corpus callosum in female versus male mice exposed to 0, 6x 6, or 1x 20 Gy radiation at 6 or 18 months from exposure. (A) Two-way ANOVA of N1 velocity at 6 months post-radiation revealed no significant effect of radiation exposure ( $F(2,23)=1.079$ ,  $p=0.3564$ ), sex ( $F(1,23)=2.9$ ,  $p=0.1021$ ), or the interaction ( $F(2,23)=2.227$ ,  $p=0.1306$ ). (B) Two-way ANOVA of N2 velocity at 6 months post-radiation revealed no effect of radiation exposure ( $F(2,24)=0.7523$ ,  $p=0.4821$ ), sex ( $F(1,24)=0.02607$ ,  $p=0.8731$ ), or the interaction ( $F(2,24)=0.1048$ ,  $p=0.9009$ ). (C) Two-way ANOVA of the N2/N1 amplitude ratios at 6 months post-radiation revealed a significant effect of radiation exposure ( $F(2,22)=4.860$ ,  $p=0.0179$ ), but not of sex ( $F(1,22)=0.6002$ ,  $p=0.4468$ ) or the interaction ( $F(2,22)=0.03182$ ,  $p=0.9687$ ).  $n=3-6$ /group after removal of outlying data points. (D) Two-way ANOVA of N1 velocity at 18 months post-radiation revealed no significant effect of radiation exposure ( $F(2,24)=2.702$ ,  $p=0.0874$ ), sex ( $F(1,24)=0.2935$ ,  $p=0.593$ ), or the interaction ( $F(2,24)=0.5846$ ,  $p=0.5651$ ). (E) Two-way ANOVA of N2 velocity at 18 months post-radiation revealed no effect of radiation exposure ( $F(2,24)=0.4827$ ,  $p=0.623$ ), sex ( $F(1,24)=2.201$ ,  $p=0.1509$ ), or the interaction ( $F(2,24)=0.1125$ ,  $p=0.8941$ ). (F) Two-way ANOVA of the N2/N1 amplitude ratios at 18 months post-radiation revealed a significant effect of radiation exposure ( $F(2,22)=3.956$ ,  $p=0.0341$ ), but not of sex ( $F(1,22)=1.625$ ,  $p=0.2157$ ) or the interaction ( $F(2,22)=0.7027$ ,  $p=0.5060$ ).  $n=4-6$ /group after removal of outlying data points. Mean  $\pm$  SEM shown.