Supplemental Data

Table S1A: Survival Data for Transplant Efficiency and Sex Differences.

Table S1B: Histological Point-Counting for Inflammation on Sex Differences in the Transplant Process.

Table S2A: BAL fluid cell numbers three months following irradiation and bone marrow reconstitution using female donors into male recipients.

Table S2B: BAL fluid cell numbers three months following irradiation and bone marrow reconstitution using male donors into female recipients
### Supplemental Table S1A. Survival Rate of Female and Male Transplantation Efficiency

| Experiment ID | BM donor | BM recipient (male) | Survival rate (N)* |
|---------------|----------|---------------------|--------------------|
| 1             | Female B6| B6                  | 66.7% (6)          |
| 2             | Female mix-CF | B6           | 70.0% (30)         |
| 3             | Female mix-CF | B6           | 88.5% (26)         |
| 4             | Female mix-CF | B6           | 83.3% (6)          |
| 5             | Female B6  | mix-CF           | 80.0% (30)         |
| 6             | Female B6  | mix-CF           | 75.0% (24)         |
| 7             | Female B6  | mix-CF           | 100.0% (6)         |
| 8             | Female mix-CF | mix-CF       | 100.0% (6)         |
| 9             | Male B6    | B6                | 73.3% (15)         |
| 10            | Male B6    | B6                | 66.7% (9)          |
| 11            | Male mix-CF| B6                | 91.7% (12)         |
| 12            | Male mix-CF| B6                | 50.0% (6)          |
| 13            | Male B6    | mix-CF           | 86.7% (15)         |
| 14            | Male B6    | mix-CF           | 87.5% (8)          |
| 15            | Male mix-CF| mix-CF           | 64.3% (14)         |
| 16            | Male mix-CF| mix-CF           | 87.5% (8)          |

*Logistic regression model was used to test the effect of group on survival while adjusting for experiment, which was not significant for female or male donors (P = 0.96 and 0.59, respectively)

### Table S1B. Lung Inflammation Score

| BM Donor | BM recipient | N  | Left lung | Right lung |
|----------|--------------|----|-----------|------------|
| female CF | male CF      | 6  | 1.0 ± 0.0 | 1.2 ± 0.4  |
| female B6 | male CF      | 6  | 1.2 ± 1.2 | 0.7 ± 0.5  |
| female CF | male B6      | 5  | 0.8 ± 0.8 | 1.2 ± 0.8  |
| female B6 | male B6      | 4  | 0.3 ± 0.5 | 0.8 ± 0.5  |

BM = bone marrow

There were no significant differences in lung inflammation between the groups (Kruskal-Wallis test; P > 0.05)
**Table S2A. BAL Leukocyte and Cell Types Post-Transplantation (Female Donors/Male Recipients).**

| Group            | B6 → B6 | mix.CF → B6 | B6 → mix.CF | mix.CF → mix-CF |
|------------------|---------|-------------|-------------|-----------------|
| N                | 4       | 5           | 6           | 6               |
| $10^3$ Leukocytes/ml | 46 ± 13 | 78 ± 40     | 155 ± 139   | 118 ± 96        |
| $10^3$ AM/ml     | 42 ± 11 | 71 ± 36     | 143 ± 123   | 110 ± 93        |
| $10^3$ PMN/ml    | 1 ± 1   | 1 ± 1       | 1 ± 1       | 4 ± 3           |
| $10^3$ Lymph/ml  | 2 ± 3   | 4 ± 5       | 11 ± 18     | 4 ± 2           |
| %AM             | 93 ± 5  | 92 ± 3      | 94 ± 4      | 92 ± 4          |
| %PMN*           | 2 ± 1   | 1 ± 1       | 1 ± 1†      | 4 ± 3           |
| %Lymph          | 6 ± 4   | 7 ± 3       | 6 ± 4       | 5 ± 3           |

AM = alveolar macrophages
PMN = polymorphonuclear neutrophils
Lymph = lymphocytes

*Significantly different among the four groups using the exact Kruskal-Wallis test (P = 0.0163)
†Significantly different from mix.CF → mix-CF mice (P = 0.0077) using the Wilcoxon rank sum test when making pairwise comparisons.

**Table S2B. BAL Leukocytes and Cell Types Post-Transplantation (Male Donor/Female Recipient)**

| Group    | B6 → B6 | mix-CF → B6 | B6 → mix-CF | mix-CF → mix-CF |
|----------|---------|-------------|-------------|-----------------|
| N        | 6       | 3           | 7           | 7               |
| $10^3$ Leukocytes/ml | 49 ± 13 | 52 ± 31     | 49 ± 14     | 70 ± 30         |
| $10^3$ AM/ml | 41 ± 7  | 49 ± 8      | 46 ± 14     | 64 ± 32         |
| $10^3$ PMN/ml | 1 ± 1   | 1 ± 1       | 1 ± 1       | 5 ± 4           |
| $10^3$ Lymph/ml | 8 ± 8   | 3 ± 2       | 1 ± 1       | 1 ± 2           |
| %AM      | 85 ± 12 | 94 ± 2      | 95 ± 2      | 89 ± 8          |
| %PMN*    | 2 ± 2   | 2 ± 1       | 2 ± 2       | 9 ± 8           |
| %Lymph*  | 13 ± 12 | 5 ± 1       | 3 ± 2       | 2 ± 2           |

AM = alveolar macrophages
PMN = polymorphonuclear neutrophils
Lymph = lymphocytes

*Significantly different among the four groups using the exact Kruskal-Wallis test (P = 0.0168), but not significantly different when making pairwise comparisons using the Wilcoxon rank sum test where P = 0.0083 was considered significant.