## Preliminary Experiment to Examine the Correlation between the Hematopoietic Stem Cell Changes and the Life Span

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## Abstract

With the objective of clarifying whether the decrease in the number of hematopoietic stem cells (HSCs) after continuous radiation exposure is due to a direct effect (on hematopoietic stem cells) or an indirect effect via changes in the microenvironment in the bone marrow, we have planned to transplant irradiated hematopoietic stem cells and investigate their self-renewal capacity, differentiation ability and the mouse life span. Preliminary experiments are underway to collect baseline data on the effects of transplantation of irradiated hematopoietic stem cells on to non-irradiated mast cell-deficient WBB6F1- $W/W^{v}$  mice by comparing their life span to wild type (+/+) mice. Recent results reveal a need to finely adjust the number of hematopoietic stem cells for successful transplantation onto WBB6F1- $W/W^{v}$  mice.

Weeks post- transplantation	Number of transplanted HSCs/mouse			
	0	1×10 <sup>3</sup>	1×10 <sup>4</sup>	1×10 <sup>5</sup>
0	7	8	7	7
1	7	8	7	7
2	7	8	7	7
3	5	8	7	7
4	5	8	7	7
5	5	8	7	7
6	5	8	7	7
7	5	8	7	7
8	5	8	7	7
9	5	8	7	7
10	5	8	7	7
11	5	8	7	7
12	5	8	7	7
13	5	8	7	7
14	5	8	7	7

Table 1 Number of WBB6F1-W/W<sup>v</sup> mice alive post-transplantation