

The 4th Review Committee
Evaluation and Suggestions

(April 8, 2017)

Team for Advanced Development and Evaluation of Human Disease Models

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◎: Compulsory report items ○: Major report items ●: Optional report items

◎ 1-1a. *Have sufficient results been achieved? (The BRC's standing in the world, contribution to society)*

- It can be evaluated as generally meeting expectations:
 1. This team pursued projects on the following three issues. i) Phenotype analysis of mutants and identification of causal genes was completed in eight cases, research papers were published or are in preparation, indicating the large part of operations have been done. ii) A patient-derived xenograft (PDX) evaluation system for human cancer cells was generated in collaboration with the JFCR (The Cancer Institute of Japanese Foundation for Cancer Research) and its use value has been established. iii) A metabolomic analysis system using the NMR method was constructed. In summary, the performance that was initially anticipated is achieved.
- The Committee offers suggestions to maintain the performance sufficiently in the future:
 1. Evaluation systems that used patient-derived xenograft (PDX) are expected to serve as important foundations for future translational research on cancer. Furthermore, it will be of great value if PDX and cell lines established at the JFCR could be provided through the BRC as a part of bioresource project.
- For some portions that are deemed lower than expected, the Committee points out and makes suggestions as follows:

1. The team is yielding considerable research results, but due to the experimental difficulties in the analyses of various different types of disease models, the whole procedures are not efficient enough. As pointed out last time, they are very useful resources, and it would be desirable to provide them to public as soon as possible to promote joint researches.

© *1-1b. Responses to previous comments and advice*

- From the following perspectives, it can be evaluated as adequately addressed:
 1. Response regarding the items pointed out appears to be steadily underway with the publication of research results and other such measures. There is a possibility, however, that the development of successor personnel is an issue.
- For some portions that are deemed insufficient, the Committee points out and makes suggestions as follows:
 1. The research papers on mutant mouse analysis are of high quality and the way they are steadily being made public is commendable. However, the question is whether these have sufficient necessity as RIKEN BRC research themes. This time, again, the published content includes important concepts and can also be rated positively for its high level in academic terms, but the distinction from results achieved at the JFCR was unclear.
 2. As regards the necessity for changing to another team leader and the timing for that change, the explanation stated that this had not been done. The matter of the share of burden for cooperative activities with the Mouse Clinic is also unresolved.

○ *1-2. Is the self-analysis of strengths and weakness adequate?*

- From the following perspectives, it can be evaluated as adequately analyzed:
 1. The explanation from this viewpoint was not clear, but where the strengths are concerned, it is easy to infer overall.
- The Committee offers the following suggestions for further improvement:
 1. An explanation was given of the connection with the BRC as a part of the broader research as a whole, and it was made clear that there is

great potential overall. However, the impression was given that the part of research that constituted collaboration with the BRC was not positioned as central to the research as a whole.

● *1–3. Is the plan reasonable for the medium to long term?*

- From the following perspectives, it can be evaluated as generally reasonable:
 1. This team has been a driving force for cancer research in Japan, and its presence serves as a major motivating force that enhances the added value of resources in the BRC. It should continue to be supported even after the comprehensive reassessment in fiscal year 2018.
- For some portions that are deemed insufficient, the Committee points out and makes suggestions as follows:
 1. Evaluation systems using PDX, which were furthered under operation of the support foundation for “the program for strategic cultivation of next-generation cancer research seeds”, are considered useful. However, it was not clear how they would be tied in with bioresource projects as an outlet for results.
 2. A continuous explanation regarding the necessity for implementing this at the BRC is to be hoped for.

◎ *2a. Have appropriate fields been earmarked for future prioritization?*

- Some portions are adequate, but the Committee points out insufficient portions as follows:
 1. An explanation of how they are to be connected to bioresources projects as an outlet for results and whether or not the BRC should be the implementer is what is needed next.

3–3. Innovation hub

● *(iii) Continuous operation and attracting new users*

- From the following perspectives, these can be evaluated as being generally sufficient, but for portions that are deemed insufficient, the Committee offers the following suggestions:

1. There is no indication of plans aimed toward expansion of the number of users of related resources.