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Dr. Yves Brun
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Dear Dr. Brun:

I heartily recommend Dr. Hideo Tsubouchi for an Assistant Professor in Department of Biology and the Biocomplexity Institute.

I have known him since he was an undergraduate student at Department of Biology, Faculty of Science, Osaka University. He was an excellent student of my molecular biology course. I am able to still remember that he read papers very carefully and discussed seriously on his questions from the beginning of the course. After his graduation, he joined our research project as a graduate student.

He was a motivated and exceptionally gifted student. His laboratory technique was superb and trustworthy, and his zeal for attacking the problems in his research was extremely impressive. In my 30 years of teaching, I have known only one or two students to compare with him.

The quality of his works was also very high. He was interested in formation of meiosis-specific double strand-breaks (DSBs) and their repair. First, he found a novel *mre11* mutation which can form DSBs but not proceed a subsequent step, processing at 5'-ends. This mutation was originally reported as *rad58-4* in a new gene, *RAD58* (Chepurnaya *et al.*, *Curr. Genet.* **28**, 274). However, he suspected it to be a new mutation in the *MRE11* gene by his careful examination on properties of the mutant. He got the mutant strain and reexamined it in detail. Finally he cloned the mutant gene and proved that the mutation was in a phosphoesterase consensus motif of the *MRE11* gene. In view of the properties of this mutant, he suggested that the Mre11 protein is involved in nucleolytic processing of DSB ends during both mitosis and meiosis. This is the first paper to suggest strongly that the Mre11 has a nuclease activity. The paper describing these results was appeared in *Molecular Cellular Biology* (1998). Secondly, he isolated several high copy suppressors of MMS repair-defect of an *mre11* mutant. One of them is *DHS1*, which was recently found to be the gene of Exo1, a 5'-3' exonuclease. This result also supports his propose for function of Mre11 protein. Furthermore, he found that ExoI is involved in processing of DSB ends and in formation of crossover-type

recombinants. From this result he proposed also that the differentiation between crossover and noncrossover recombination was originated during formation of recombination intermediates. This hypothesis is an epoch-making one, because the crossover and noncrossover recombination was considered to be differentiated at the resolution step of the recombination intermediates. The paper including these results was published in *Mol. Biol. Cell* (2000).

Besides his academic accomplishments, he has a very pleasant personality. He is polite, kindhearted and well liked by students as well as those around him. I enjoyed very much working and discussing our research with him. I convince that Dr Tsubouchi is obviously an outstanding researcher, and will contribute to your University and the progress of life science in his bright future.

In summary, Dr. Tsubouchi is an excellent young scientist and I strongly support his application for the Assistant Professor in your Department and the Institute.

Sincerely yours,

Hideyuki Ogawa

Hideyuki Ogawa
President, and Professor of Molecular Genetics