

## Results report

- 1 . Title of Research and Development : THE ROLE OF HIV IN PRE-ECLAMPSIA
- 2 . Principal Investigator : Tadashi Konoshita (University of Fukui Faculty of Medical Sciences, Clinical Professor)
- 3 . Counterpart Principal investigator : Jagidesa Moodley (University of KwaZulu-Natal, Professor (Republic of South Africa))
- 4 . Results of Research and Development:

This collaborative research aimed at evaluation of the effects of HIV infection and genetic variants in system such as the renin–angiotensin system (a very important endocrine system that regulates blood pressure) on pre-eclampsia, a specific model for hypertension which often causes serious symptoms such as convulsion and loss of consciousness and is prevalent in South Africa. Specifically, the Japanese researchers were in charge of provision of techniques and knowledge for assays of genetic variants, and the South African researchers were in charge of provision of subjects suffering from pre-eclampsia and clinical evaluation. By working together, this project contributed to development of a new interventional treatment for pre-eclampsia.

At the beginning 2 years, DNA samples were recruited in the Republic of South Africa. Considering the statistical significance level and power, about 600 blood samples were collected and DNAs were extracted. A South Africa side researcher was invited to Japan side laboratory, and he analyzed 7 renin-angiotensin system genetic variants (renin, angiotensin, ACE, AT1, AT2, CYP11B2 and ENPEP). Without any main trouble, he persuade his task. At the crude analysis step, we obtained some statistical significance results between 2 of the genes and pre-eclampsia. It is for the first time that the 7 genes of the RAS were examined at the same sample series.

On the other hand, we tried to establish a measurement system for one of new component of the RAS. Especially, by monoclonal antibody, a high sensitivity system was aimed. We made hybridomas and screened the activity for the protein. We selected several clones and tried several combinations for sandwich ELISA assay system. Finally we selected one combination of the antibodies. We tested the reproductivity of the assay and optimized the condition. Now we have almost established the new assay system for a new component of the RAS.

We are preparing to present the obtained results at some international congresses and to publish them in some international journals.