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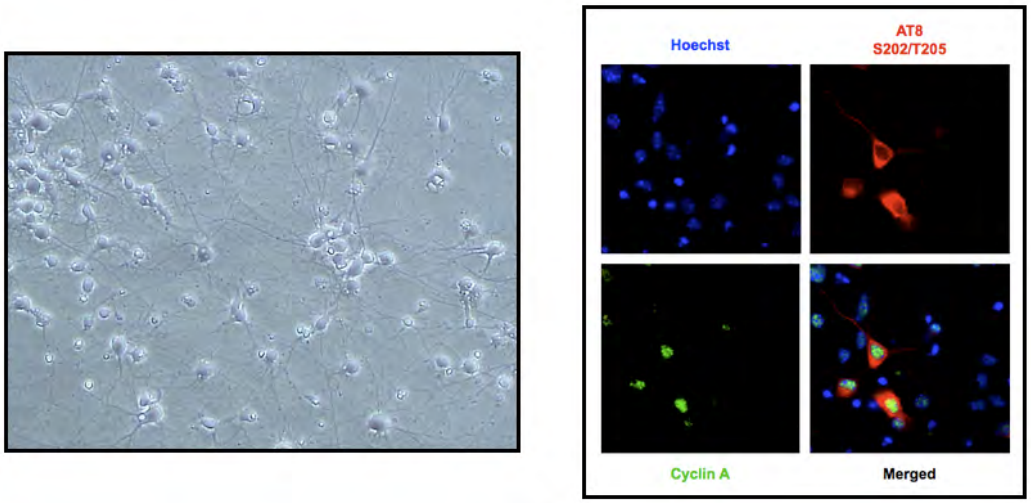
“Moshi, moshi!”
That is how it started.
A simple answering the call turned out to be the passport for a breathtaking fully enriched life experience. From six months, the highlights lived throughout my stay in Japan are uncountable and every single day special and unique. For those seeking “Lost in translation” moments Japan offers not only a singular reality and a passionate way of living but also a millenary culture where the aesthetic and the social respect rapidly conquer our consideration and admiration.

As a final year PhD student at the Institute of Psychiatry, King’s College London, I have been investigating the molecular pathways involved in the neurodegenerative mechanisms underlying Alzheimer’s disease (AD). In specific, our group works with the hypothesis that fully differentiated neurons in the brain of AD patients, once exposed to stress signals, re-activate the cell cycle but do not progress to a successful cellular division, dying instead.

At Osaka University my research consisted in testing caffeine as a neuroprotective drug in the context of neuronal cell cycle re-entry. I found out that caffeine is able to inhibit cell cycle progression and to prevent AD-related abnormal phosphorylation of proteins (such as the microtubule associated protein tau), characteristic of the disease. These findings highlight the potential therapeutical use of caffeine for the treatment of AD in the context of our hypothesis.




Figures – Left: Rat primary cortical cultures visualized by light microscopy in a were used as biological model. Right: Double staining of primary neurons reveals correlation between tau phosphorylation at S202/T205 (red) and cyclin A expression (green), pointing out the importance of tau phosphorylation dynamics in neuronal cell cycle re-entry.

Working at the Department of Psychiatry at Osaka University Graduate School of Medicine was pure daily satisfaction. The Department has access to a vast state-of-the-art molecular and cell biology techniques, including proteomics, modern genetic techniques, advanced histology and cell imaging (see figures). Numerous instruments are shared between the different Departments and many other important services are readily available in the building, which facilitates and expands the limits of investigation. Also, a good funding program guarantees continuous and stable lines of research.

What have I brought with me? A fruitful and enjoyable research collaboration that will persist in the future; great friendships and memorable moments; a panoply of amazing photographs.

What have I left in Japan? The best of me and the promise to go back!

The Department of Psychiatry. Try to find me!