

**083-S**

**COMPARATIVE GENOMIC STUDIES BETWEEN HUMANS AND NON-HUMAN PRIMATES: FROM EVOLUTIONARY RESEARCH TO BIOMEDICAL APPLICATION**

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Non-human primates are important biological resources that facilitate studies of pharmacology, infectious diseases, behaviors, and physiology. Many of these research projects have assumed that non-human primates are the evolutionary closest animals to humans and thus their physiology is a reasonable reflection of a human physiology. In other words, these animals are used for studying to know human beings. However, humans and non-human primates still have a lot of dissimilarity in many biological aspects.

In this symposium, we discuss similarities and dissimilarities between humans and non-human primates at various biological levels. In the genomic era, many of the differences can be measured at a molecular level. Some phenotypes may be more differentiated than expected from their genetic distance. We could investigate whether observed differences in physiology between humans and non-human primates are related to the genetic difference between them, and wish to understand the genetic basis of the differences. We would like to present a lot of examples, such as difference in genome structure, transcriptome, protein structure, drug metabolisms, and genetic diversity, and discuss the potential of biomedical applications of non-human primates.

Keywords: comparative genomics, population genetics, biomedical research, genetic divergence