

## S60-3 **Novel actions of nuclear receptors**

○Junn YANAGISAWA<sup>1</sup>

<sup>1</sup>TARA Center, Univ. of Tsukuba

---

Nuclear receptors are responsible for sensing the presence of steroid hormones and certain lipophilic molecules. In response, these receptors regulate the expression of specific genes thereby controlling the development, homeostasis, and metabolism of the organism. Nuclear receptors have the ability to directly bind to DNA and regulate the expression of adjacent genes, hence these receptors are classified as transcription factors. The regulation of gene expression by nuclear receptors only happens when a ligand is present. More specifically, ligand binding to a nuclear receptor results in a conformational change in the receptor which in turn activates the receptor resulting in up-regulation of gene expression. We found that nuclear receptors also regulate cell signaling pathways by binding with several signal transducers. We performed functional screening of chemical compound library and identified chemicals which could selectively regulate different cellular processes. Our observations provide a new strategy for some diseases such as cancer and fibrosis.