

S15-5 Challenge of studies on the development of new Zn complexes to treat diabetes mellitus

○Yutaka YOSHIKAWA¹, Hiromu SAKURAI², Hiroyuki YASUI¹

¹Kyoto Pharmaceutical University, ²Suzuka University of Medical Science

In recent years, people worldwide have suffered from various diseases such as cancer, myocardial infarction, osteoporosis, hypertension, and diabetes mellitus (DM). DM, well-known as a lifestyle-related disease, has been especially regarded as a serious problem because it is difficult to fully recover from it. In 2007, the number of DM patients worldwide was reported to be approximately 200 million. The use of insulin preparations and synthetic therapeutics to treat DM is associated with problems such as physical and mental pain caused by daily injections and certain side effects, respectively. Zinc (Zn), which is an essential trace element in animals and humans and plays an important role in the maintenance of life, was shown to possess insulin-like activity. Following this finding, several Zn complexes have been proposed to be a new type of anti-diabetic therapeutic drug, which is different from the existing medicines. In this symposium, we will reveal the anti-diabetic effect, complication-ameliorating effect, and mechanism of action of bis(2-mercaptopyridine-N-oxidato)Zn and bis(2-mercaptotropono)Zn complexes with Zn(S₂O₂) coordination mode.