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# MEDICINAL CHEMISTRY & TARGETED DRUG DELIVERY

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### Preclinical researches on novel sugar dendritic Gd-DTPA MRI contrast agents and IER5/Cdc25B targeted phospho sugar antitumor agents to innovate in cancer therapy

Innovative and strategic materials against tumor cells to decrease sharply the number of dead people by tumors are desired eagerly. To innovate in medical technologies of diagnosis and cure for various kinds of tumors by novel medicinal materials, i.e., sugar dendritic Gd-DTPA complex MRI contrast agent (DEN-OH) and IER5/Cdc25B targeted novel phospho sugar antitumor agents (TBMPP) were prepared and evaluated *in vitro* and *in vivo* methods, and then these novel medicinal materials were revealed preclinically to have excellent characters against tumor cells.

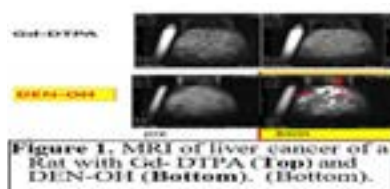


Figure 1. MRI of liver cancer of a Rat with Gd- DTPA (Top) and DEN-OH (Bottom). (Bottom).

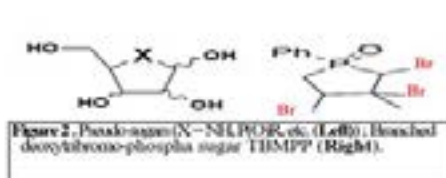


Figure 2. Pseudo-sugars (N-NH<sub>2</sub>PO<sub>3</sub>R, etc. (Left)), Branched decylthromio-phospho sugar TBMPP (Right).

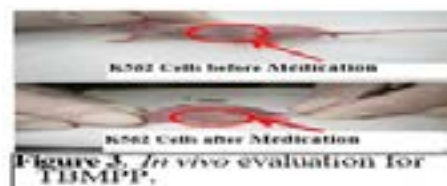


Figure 3. *In vivo* evaluation for TBMPP.

### Biography

Mitsuji Yamashita has completed his PhD from Nagoya University, Japan, and Postdoctoral studies from Toyota Science and Chemistry Research Center, Japan, and Iowa State University, USA, as well as a Visiting Professor of University of Massachusetts, USA, and a Visiting Researcher of Oxford University, UK. He was a Professor of Shizuoka University, Japan, and he is now a Professor, Emeritus. He has published more than 180 papers and patents.

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