# Inhibitor screening of hepatitis C virus (HCV) viral protein NS5B on chip

노창현*, 조성기
한국원자력연구원
(chroh@kaeri.re.kr*)

Over 170 million people (ca. 3%) are infected with the hepatitis C virus (HCV) and the rate of global death from liver-related mortality to HCV has remarkably increased. For this reason, the development of efficient drug treatments for the biological effects of HCV is highly needed. We demonstrated a small molecule inhibitor on viral protein NS5B identified through a high-throughput screening strategy using optical nanoparticle-based RNA oligonucleotide. Among compounds examined, (-)-Epigallocatechin gallate demonstrated a remarkable inhibition activity on HCV viral protein, NS5B. At 0.005 μg/mL or more of (-)-Epigallocatechin gallate, concentration-dependently attenuated the binding affinity on a designed biochip as evidenced by QDs-RNA oligonucleotide. At a concentration of 0.1 μg/mL, (-)-Epigallocatechin gallate showed a 50% inhibition activity on a QDs-RNA oligonucleotide biochip assay. We screened a small molecule inhibitor on the viral protein, NS5B, identified through a high-throughput screening strategy using on-chip optical nanoparticle-based RNA oligonucleotide on chip.