Curriculum Vitae

Seishi Murakami

1969 - 1978 Research Associate, Dept. of Biophysics, Cancer Research Institute Kanazawa University

1978 - 1994 Associate Professor, Dept. of Biophysics, Cancer Research Institute, Kanazawa University

1980 - 1982 Visiting Associate Professor, Dept. of Biochemistry, School of Medicine University of Minnesota, U.S.A.

1994 - 1997 Professor, Dept. of Molecular Biology, Cancer Research Institute Kanazawa University

Fields and Projects on going

1. Molecular Biology of Hepatitis B Virus and transcriptional modulation.
2. Molecular Biology of Hepatitis C Virus.
3. Telomere and telomerase in yeast and human.

Hepatitis C Virus (HCV) NS5B, a central catalytic enzyme for HCV replication

Seishi Murakami (Div. Molecular Biology, Dept. Molecular Oncology, Cancer Research Institute, Kanazawa University)

Chronic infection with HCV results in liver cirrhosis and often hepatocellular carcinoma (HCC). Incidence of HCV-associated HCC is still increasing among the world. We have concentrated to understand structure and function of NS5B, the central enzyme for HCV replication, in hope to invent better designs for anti-HCV drugs.

We established the bacterial expression and purification method of NS5B deleting the C-terminal membrane-recruitment domain (Yamashita T et al. J Biol Chem, 1998), then a two-step analysis method with alanine-scanning libraries of NS5B was introduce to search essential residues for RNA-dependent RNA polymerase (RdRP) acitivity (Qin W et al. Hepatol, 2001, J Biol Chem, 2001), subcellular localization signals of NS5B (Hirano M et al. J Biol Chem, 2003), and interaction between NS5A and NS5B (Shirota Y et al. J Biol Chem, 2002). We recently started to evaluate whether the findings to modulate RdRP activity of NS5B in vitro are also critical for HCV replication in vivo by introducing HCV RNA replicon (Shimakami T et al. J Virol, in press; Ma Y et al, in preparation).