Assembly of Hepatitis B Virus Capsid Under Cell-Free Conditions

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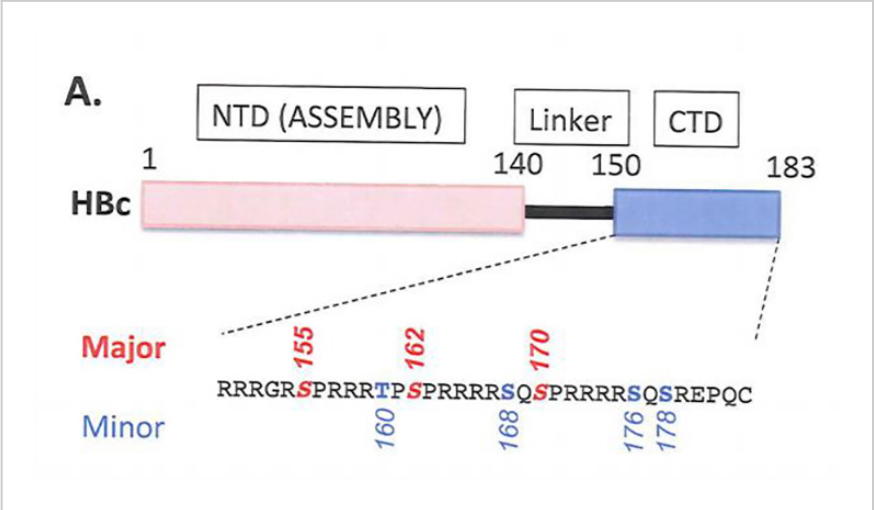

Schematic of HBc Domain Structure

Technology Summary

A cell-free translation and assembly system to study HBV capsid assembly in physiological mammalian cell lysates. Hepatitis B is a potentially life-threatening liver infection caused by the hepatitis B virus (HBV), which can cause both acute and chronic disease. Currently available vaccine is 95% effective in preventing infection and development of the chronic disease, however HBV infection is still incurable and infected patients are facing a lifelong treatment. This system should provide a better platform for screening new anti-HBV therapeutics.

Application & Market Utility

The system is a mammalian cell-free system mimicking physiological conditions. Enables dynamic post-translational modifications including phosphorylation and dephosphorylation of the capsid protein, which control capsid assembly. Allows identification of host factors regulating HBV capsid assembly. Potential screening tool for inhibitors/regulators that target the C-terminal domain of the capsid protein as well as host factors required for HBV capsid assembly.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL 4-7

Seeking

Investment | Licensing | Research

Keywords

- Hepatitis B Virus
- Capsid assembly
- Mammalian Cells
- Cell-free system

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