

Genetic Code Expansion in Natural Propagation for Site-Specific Engineering and Tracking of Single Adeno-Associated Viruses

Chuanling Zhang

Peking University, China,

Abstract

With the aim of studying structure-function relationships of viruses, we developed a general approach that directed azide-bearing amino acids site-specifically to any defined position of progeny adeno-associated viruses (AAV) via expanded genetic codes. As a demonstration and application, azides embedded at AAV capsids are subsequently coupled with fluorophores bioorthogonally in high efficiency, generating visible viruses with probes incorporated at optimal sites that cause minimal disturbance on viral propagation and infection. The facile and mild realization of site-specific engineering of AAV by natural propagation is of considerable interest to both basic research and for therapeutic applications.

Biography

Chuanling Zhang has completed his PhD at the age of 28 years from Peking Union Medical College and worked at Peking University Health Science Center as an assistant professor. He has published more than 10 papers in reputed journals.