Accelerated Drug Development Enabled By Velocimab® Technologies

Darya Burakov, Protein Expression Sciences, Regeneron Pharmaceuticals, Tarrytown, NY

The global spread of infectious diseases in the modern world represents a significant epidemiological threat. Recent Ebola crisis in the West Africa is an example of highly lethal infection, killing up to 70% of infected individuals. Rapid response to these medical emergencies is critical for controlling their spread. Regeneron's VelociMab[®] technologies enable the rapid development and production of fully human antibodies. VelociMab[®] integrates the construction of EESYR[®] CHO production cell lines into the antibody discovery process. Antibody genes derived from B cells producing desirable antibodies, are cloned directly into EESYR[®] cells yielding isogenic cell lines 18 days after transfection. These cell lines are immediately available to produce gram quantities of human antibodies for preclinical studies, and GMP production can be initiated within three months. A case study of a "rapid response" drug development program will be discussed with the focus on critical technologies used to achieve unprecedented speed to clinic.