*Company Background*

Antigenesis Biologics / XapHe is at the forefront of developing therapeutic biologics, with a primary focus on antibody-based therapies for oncology. A key innovation is our proprietary Peptide Nanoparticle Platform (PNP), which enables efficient, targeted delivery of mRNA directly to cells. This breakthrough eliminates the need for complex protein manufacturing, streamlining the therapeutic process.

Operating within the biotechnology sector, we specialize in the discovery, engineering, and optimization of antibody therapeutics to address human diseases. Leveraging advanced AI/ML techniques, we are continuously enhancing our capabilities in drug development, aligning with the rapid progress in artificial intelligence to accelerate therapeutic innovation.

*Background to question proposed:*

**How can we leverage the recent advances in large language models (LLMs) focused on general and antibody-specific protein design to create a platform for developing optimal therapeutic proteins and antibodies?**

With the growing success of AI-driven models in protein structure prediction and the specificity of antibody-focused LLMs, there is significant potential to enhance the discovery and optimisation of therapeutic proteins and antibodies. However, the challenge remains in how best to harness these technologies to create an integrated platform that not only accelerates the development process but also optimises therapeutic efficacy and safety. What are the key strategies, AI/ML approaches, and computational tools needed to build such a platform? Furthermore, how can this platform integrate real-world data from preclinical and clinical studies to ensure the development of highly specific and functional therapeutic candidates?

See references:

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