BIOCONJUGATION AND NEW TARGET DISCOVERY

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Thomas Hoeg-Jensen has 24 years of experience in design of diabetes-related protein drug candidates, he is co-inventor of insulin degludec (Tresiba) and adjunct professor at University of Copenhagen.

Nowadays, most pharmaceutical companies have bioconjugation. If they hadn't already set it up, they would have set it up by now. Is it still very much something which is exciting for the industry to explore?

Yes, I've been doing it for 25 years; we've done insulin bioconjugation, most of the work here is around antibodies. Whereas Novo's tradition has been to take endogenous hormones and make conjugation that would mainly produce longer acting compounds. We have essentially finished the platform we have with insulin and GLP-1. I think we reached the ends of the line, i.e. how much we can do with PK. We either need to find new targets, or start playing with other things, such as tissue selectivity. We are doing something with antibody conjugates, which means we can get a feeling for how that has worked here. I think there's a lot for organic chemists to do in the protein world.

In order to ensure ADCs work well and success for ADCs, what do you think are the priorities of the industry at the moment?

From our point of view, it is mainly coming up with new targets, because the technology is so mature within the targets we've been working at so far, diabetes in particular. The way we do various conjugations with the techniques people are using here can be further developed, e.g. how to engineer antibodies, but the main thing is to come up with new targets.

Would coming up with new targets be with using the right technologies, screening, throughput, and phage display?

We mainly use the endogenous hormones, but of course, you can couple it with artificial ligands for targets. Phage display is a good technique, all kinds of display techniques are.