integral molecular

Case Study:
How can antibodies with diverse epitopes against the GPCR glucagon receptor be isolated?

THE NEED

argenx

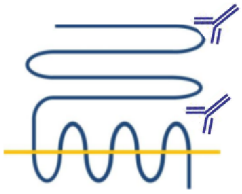
Developing functional antibodies against GPCRs with small extracellular loops is incredibly challenging and MAbs against these targets are rare. Class B GPCRs such as the glucagon receptor are additionally challenging in that they contain a large extracellular domain that covers the extracellular loops. argenx had developed an approach for DNA immunization of llamas and was looking for a way to identify diverse glucagon receptor-specific antagonistic MAbs.

THE SOLUTION

Lipoparticles

Integral Molecular provided high quality Lipoparticles presenting human glucagon receptor which enabled argenx to isolate antagonist MAbs with diverse epitopes.

	Panning on recombinant ECD-FC	Panning on Lipoparticles	
Number of VH families	5	23	3
Epitope(s)	4	ECD	ECL



23 ECD binding families

2 ECL binding families

THE IMPACT

Isolation of Diverse Antibodies

Use of Lipoparticles displaying full-length human glucagon receptor enabled the isolation of antibodies binding to diverse epitopes including both the long ECD and short ECLs of the receptor. This is the first report of antibodies against the ECLs of a class B GPCR. Compared to panning with a soluble ECD construct, panning with Lipoparticles gave a greater diversity of both sequence families and epitopes. This campaign also yielded multiple families of antagonistic antibodies.

Publication

Data featured in MAbs, van der Woning et al. 2016

Looking for more information? Contact us below:

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