

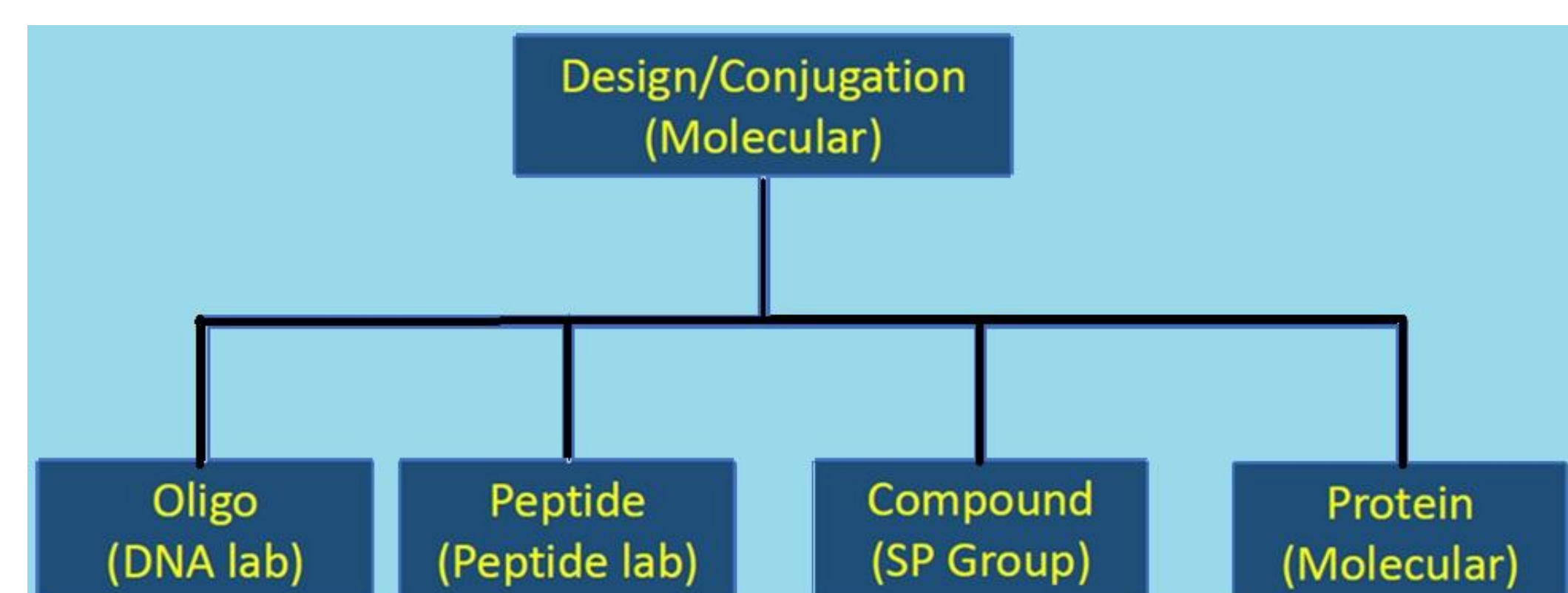
Abstract

Antibody-drug conjugates (ADCs) are revolutionizing cancer therapeutics. Therapeutic oligonucleotide-antibody conjugates (AOCs) combine precise targeting of antibodies with the gene-modulating power of oligonucleotides.

AOCs offer solutions for disease conditions that were previously difficult to treat, including various cancers, rare genetic diseases, and neuromuscular disorders.

Conjugating oligonucleotides such as siRNA or ASOs to antibodies enables the design and production of molecular bullets with enhanced targeted delivery, antibody-mediated precision, and potentially targeting “Undruggable Genes.”

AOC Bioconjugation



Integrated approach for the production of antibody oligonucleotide conjugates for cancer therapeutics

Reference

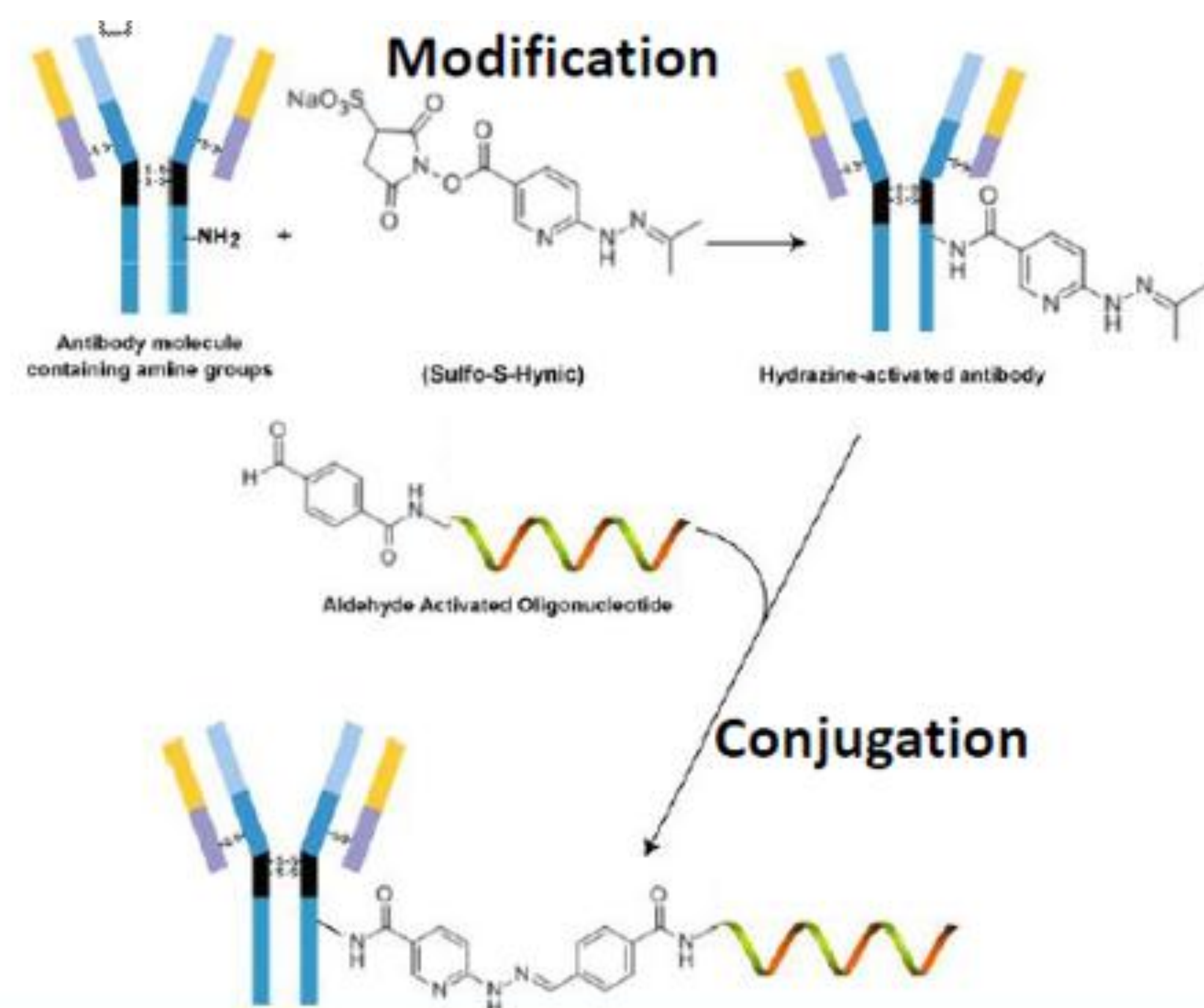
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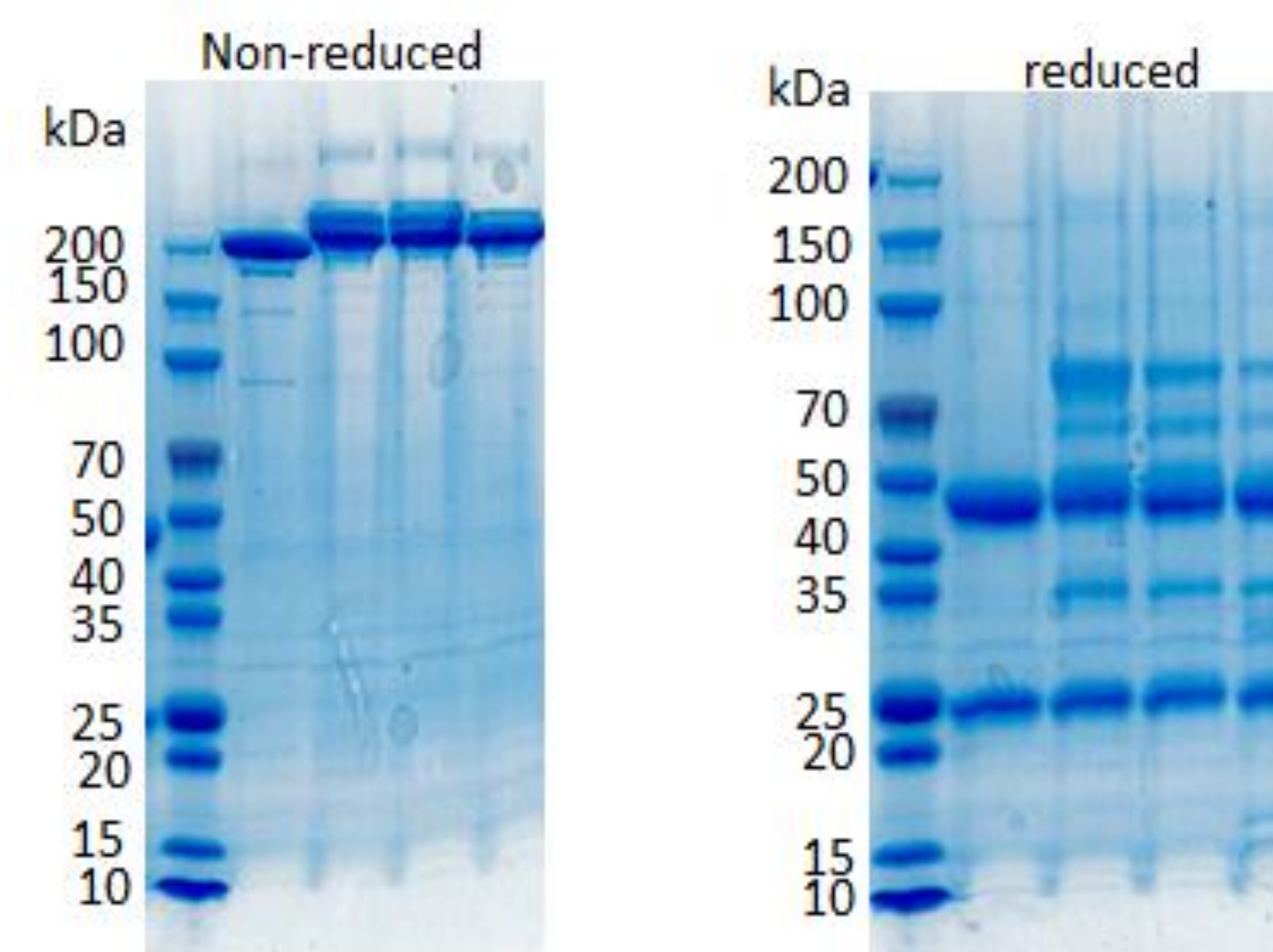
Chernikov et al. 2019, Front Pharmacol. 2019 Apr 26;10:444.

AOC Bioconjugation Custom Protein Conjugates

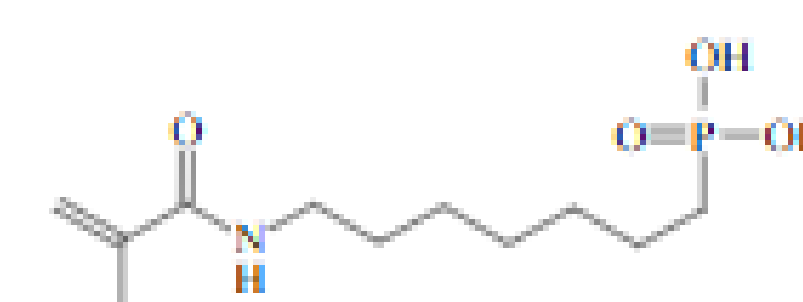


siRNA AOC

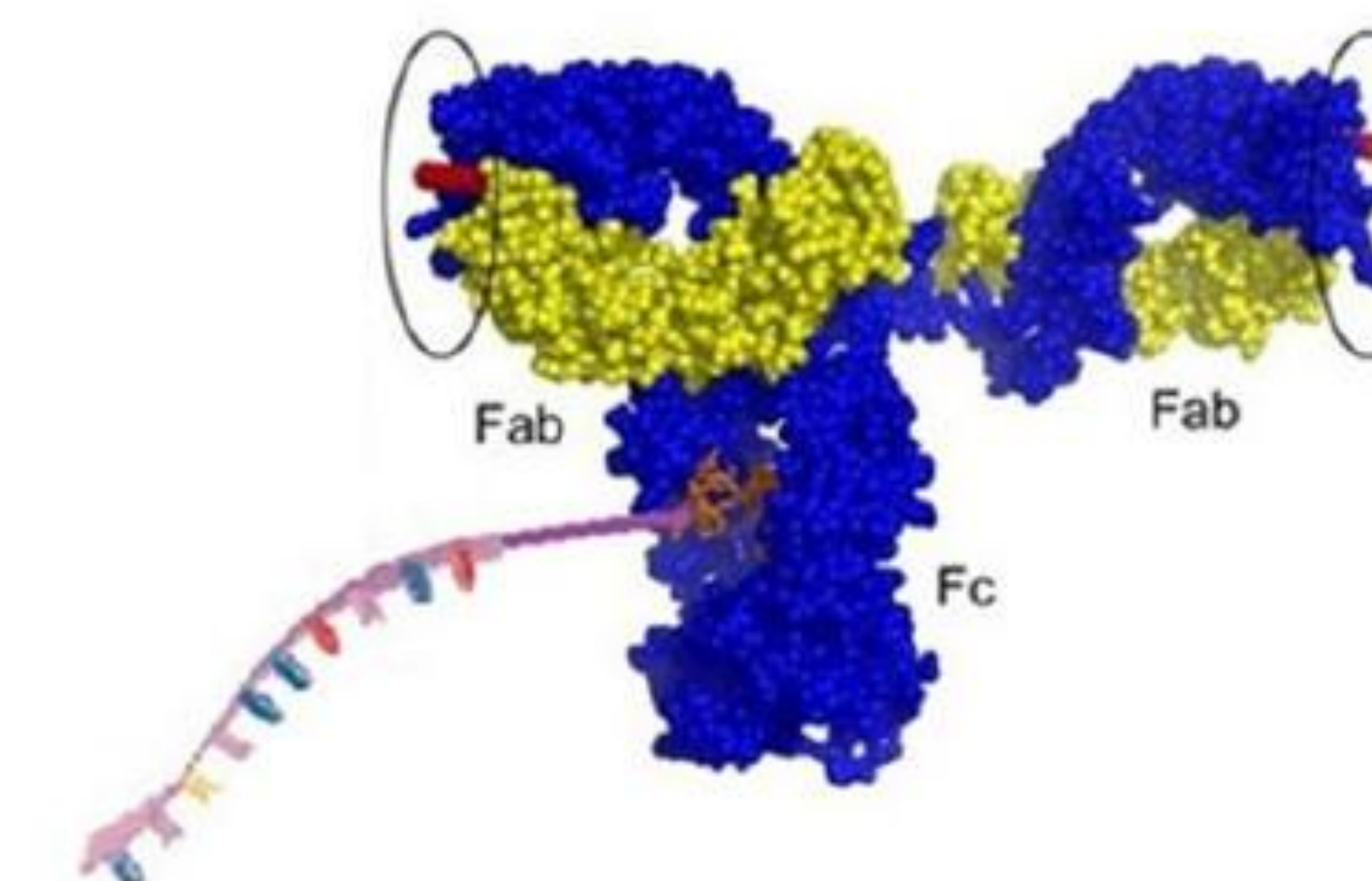
Oligonucleotides & mRNA from
Discovery to Production



3 siRNA-AOCs with different linkers.



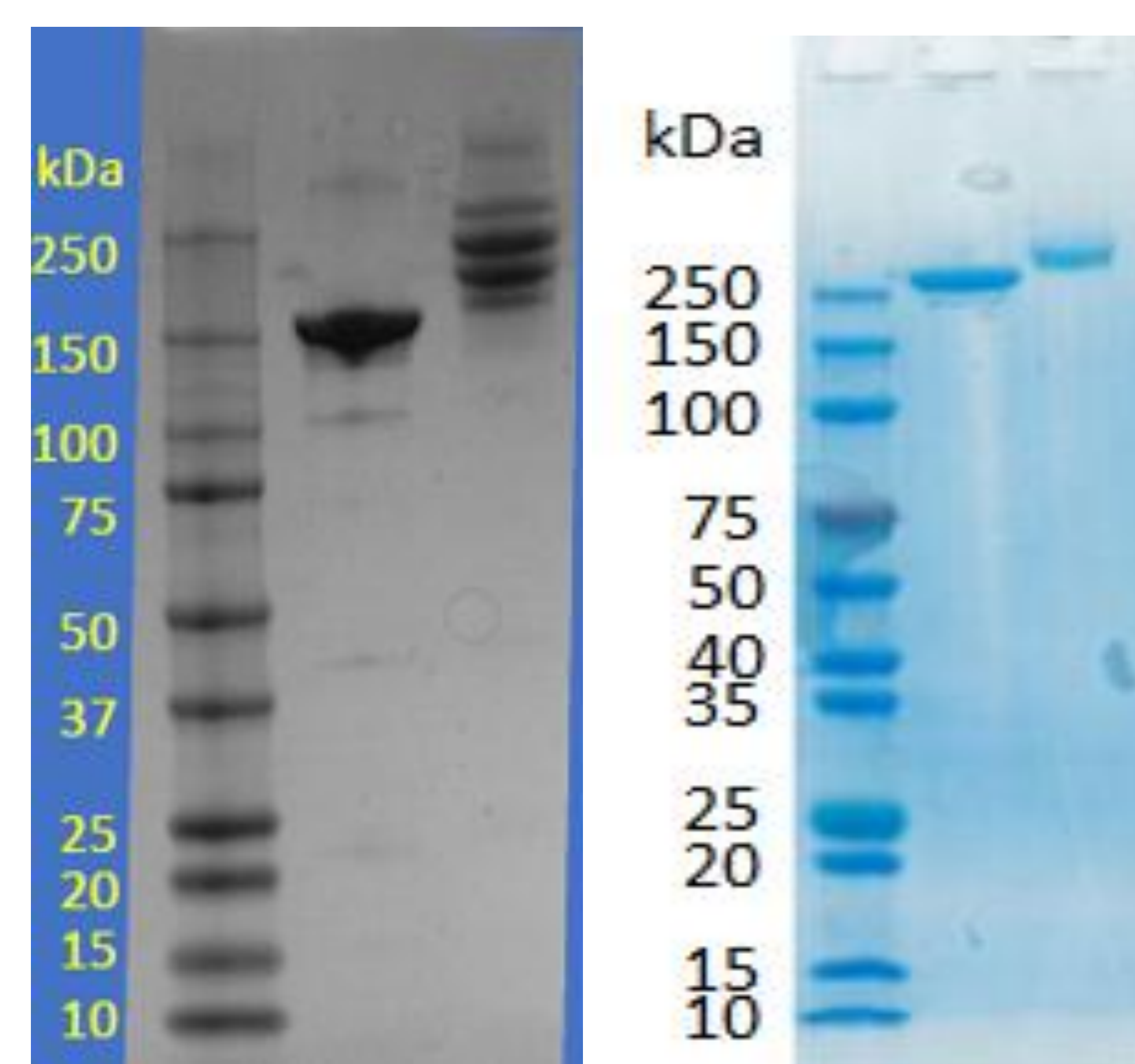
AOCs



- High specificity to antigen
- High affinity to antigen
- Sensitive detection
- Diagnostic agents
- Drug delivery
- In vivo targeting

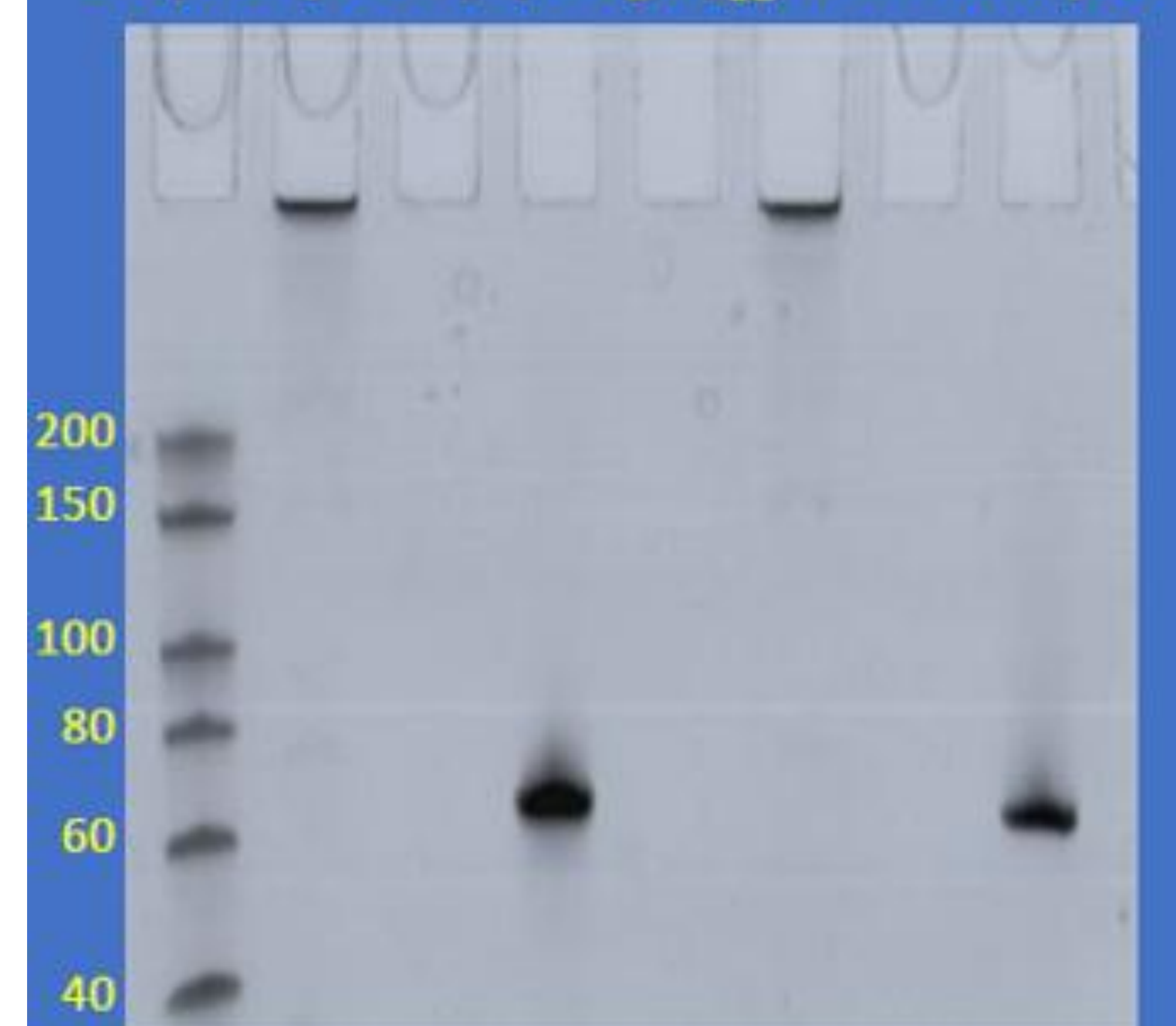
DNA AOC

[ssDNA]₁₀₀-McAB [dsDNA]₇₆-McAB



For specific detection or
diagnosis.

5'-[Acrydite]-[Oligo]₆₈-Antibody-3'



Purification

(Dialysis, Diafiltration, Affinity, SEC, IE, RP)

Quality assurance

(Gel, HPLC, Mass, PCR, Function)

Conclusion

Oligonucleotide antibody conjugates (AOCs) enable the creation of novel biomolecules by utilizing different targeting molecules, linkers and payloads for the creation of specific homing biomolecules allowing the delivery of various payloads to cellular targets. Therapeutic AOCs represent a cutting-edge class of drugs combining the precise targeting of antibodies with gene-modulating functions of oligonucleotides. This approach promises to overcome delivery challenges.