ABZENA

Streamlining Bioconjugation for Antibody-Drug Conjugate Development

Tailored Solutions for Optimized ADC Development

Bioconjugation plays a key role in creating antibody-drug conjugates (ADCs), offering precise linking of biologically active molecules with potent payloads. At Abzena, we specialize in cutting-edge bioconjugation methods that support the development of stable and effective ADCs. By leveraging proprietary technologies like ThioBridge™, we streamline the conjugation process, ensuring efficacy, safety, and scalability of your therapeutic.

Expertise and Capabilities

Abzena offers unparalleled expertise in bioconjugation with services designed to accelerate drug development:

- **Proprietary ThioBridge™ Technology:** Our unique disulfide re-bridging platform, ThioBridge™, allows precise, site-specific conjugation, ensuring superior control over drug-antibody ratios (DAR) and enhanced ADC stability.
- **Comprehensive Conjugation Toolbox:** We provide access to numerous conjugation techniques, including traditional methods like lysine and cysteine conjugation, as well as advanced enzyme-based site-specific approaches.
- **Versatile Payload Capabilities:** Our experience in handling diverse cytotoxic payloads such as auristatins, maytansines, PBD dimers, and more, enables us to design payload-linker constructs with optimized pharmacokinetics and therapeutic profiles.
- **Tailored Development Programs:** We offer bioconjugation services from early discovery through to cGMP manufacturing, ensuring a seamless transition through all stages of ADC development.

Bioconjugation Services

Abzena's bioconjugation services ensure that your ADC candidates meet the highest standards of efficacy and safety through:

- **Linker Payload Design and Synthesis:** We specialize in custom synthesis of novel linker payloads for specific ADC targets, ensuring maximum efficacy and minimized off-target effects.
- **Stability Profiling and Release Kinetics:** Our bioconjugation processes ensure optimized release kinetics, maintaining payload stability until the target site is reached.
- **Matrix Evaluation Approach:** Using a matrix evaluation, we guide the development of bioconjugates, helping to de-risk the process and identify the most effective conjugation strategies.

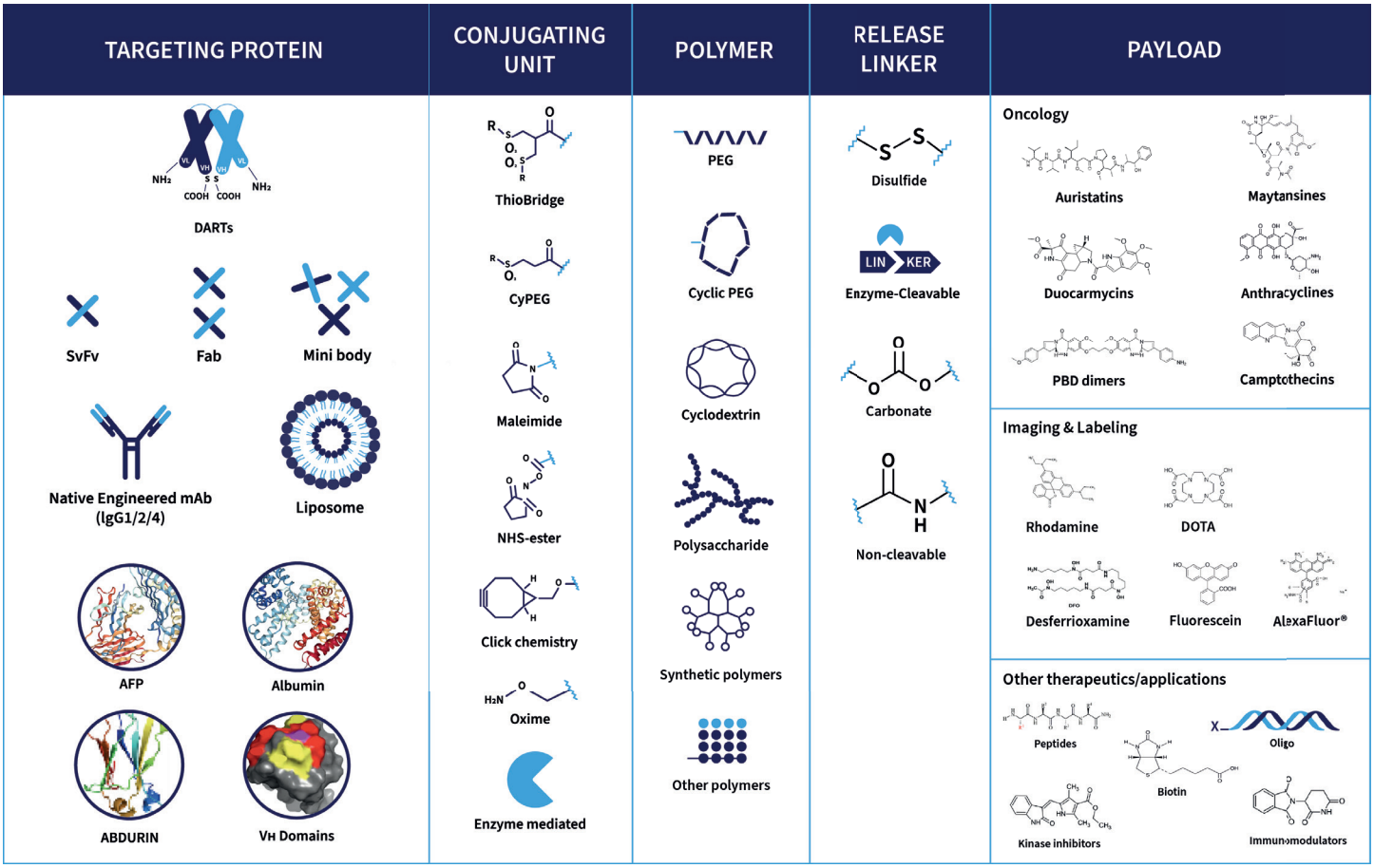

Figure 1: The Abzena ADC Toolbox highlights the comprehensive range of components and technologies available for the development of a diverse range of bioconjugates

Comprehensive ADC Development

Abzena supports every step of ADC development, from discovery through to manufacturing, with a focus on precision and efficiency:

- **Conjugation Technologies:** Access to a wide range of technologies, including ThioBridge™, CyPEG®, maleimide, NHS-ester, and click chemistry. We also handle enzyme-mediated conjugations for highly controlled site-specific modifications.
- **Polymeric Components:** We include polymeric components, such as PEG, cyclic PEG, polysaccharides, and synthetic polymers, to enhance the pharmacokinetics and stability of ADCs.
- **Release Mechanisms:** Our conjugation strategies include diverse linker release mechanisms such as disulfide, enzyme-cleavable, carbonate, and non-cleavable linkers, tailored to the target and therapeutic application.

Payload Versatility

Abzena offers extensive experience in working with a variety of payloads, including:

- **Oncology Payloads:** Auristatins, maytansines, duocarmycins, PBD dimers, camptothecins, anthracyclines, and more.
- **Imaging and Labeling Agents:** Rhodamine, DOTA, fluorescein, AlexaFluor®, and others for diagnostic and research purposes.
- **Other Therapeutic Applications:** Peptides, oligonucleotides, kinase inhibitors, immunomodulators, and biotin for specialized drug development.

State-of-the-Art Analytical Capabilities

Abzena's advanced analytics ensure the quality, stability, and functionality of bioconjugates throughout development:

- **In vitro and in vivo Stability Testing:** Ensuring the durability and functionality of conjugates under various conditions.
- **Drug-to-Antibody Ratio (DAR) Assessment:** Achieving precise control over the DAR using advanced analytical techniques to ensure homogeneous product profiles.
- **Comprehensive Bioassays:** Supporting ADC development through internalization studies, cytotoxicity assays, and pharmacokinetic (PK) profiling.

Summary

With deep expertise in traditional and site-specific conjugation techniques, Abzena's bioconjugation services enable rapid and reliable ADC development. Our proprietary technologies, combined with a fully integrated development pipeline, allow us to deliver tailored solutions that help clients move efficiently from discovery to clinical trials. Whether seeking optimized payload delivery, scalable manufacturing, or innovative conjugation strategies, Abzena ensures your ADC program progresses with confidence.

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Contact us to discuss your project needs, and discover how our tailored solutions can accelerate your path to clinical success.

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