

Solutions for ADME Studies of Antibody-Drug Conjugate (ADC)

XenoFinder Overview

XenoFinder is a specialized Contract Research Organization (CRO) providing expert drug biotransformation and radiolabeled ADME services globally. We support every stage of drug discovery, development, and regulatory submission.

With state-of-the-art facilities, advanced LC-HRMS data processing technology, and a team of seasoned scientists, XenoFinder delivers high-quality, customized study solutions for both small molecule drugs and novel therapeutic modalities—including ADCs, PROTACs, peptides, covalent drugs and oligonucleotides.

Biotransformation Services of ADCs

- Detection and identification of payload-containing components released from an ADC in incubations with liver S9 and lysosomes, cancer cells and plasma
- Metabolite identification of a payload in hepatocytes and liver microsomes across species
- Metabolizing enzyme phenotyping of a payload
- Metabolism and disposition of a payload in BDC rats and monkeys
- Studies on payload release and ADME of other types of antibody conjugates—including antibody-peptide conjugate (APC), antibody-oligonucleotide conjugate (AOC), and degrader-antibody conjugate (DAC)
- Metabolite profiling and identification of payload-containing components in plasma of animals and humans after dosing an ADC
- ADME studies of a radiolabeled ADC and/or payload in rats, monkeys and other animal species
- Tissue distribution of a radiolabeled ADC in pharmacological animal models

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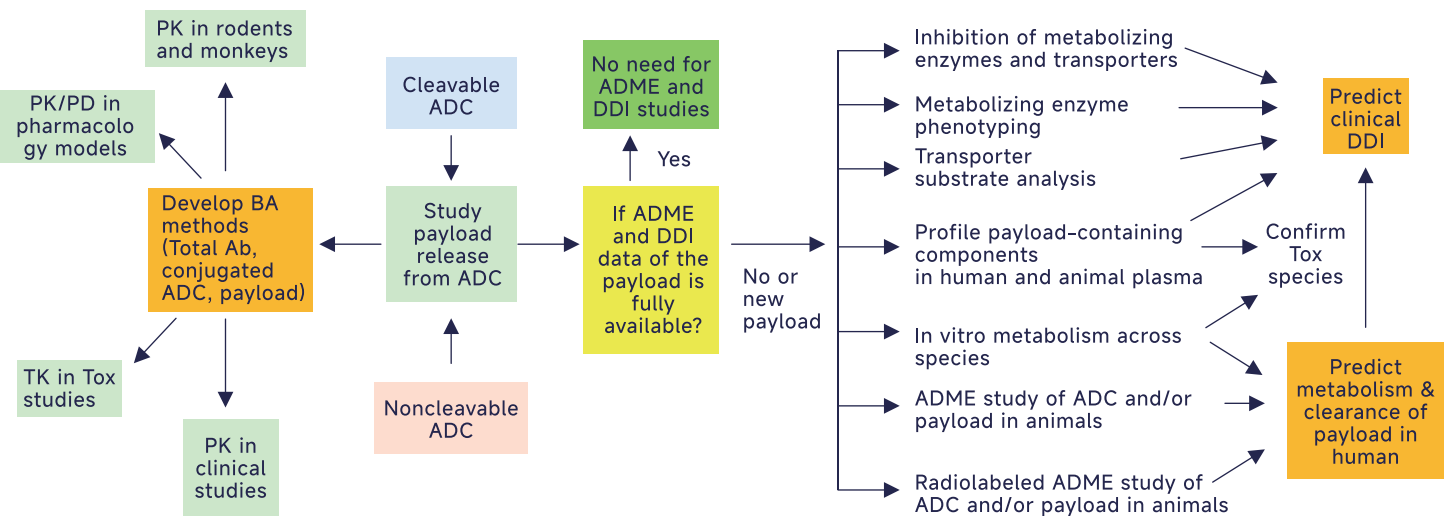
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DMPK Study Strategy and Decision Tree for ADCs

XenoFinder developed an integrated DMPK study strategy (see below) for ADCs. Identification of the major payload-containing component released from the ADC, along with radiolabeled ADME studies of the payload in animals, is crucial to guide DMPK characterization of ADCs and support the prediction of payload biotransformation and DDI potential in humans.



Integrating Biotransformation Studies into ADC DMPK Services

XenoFinder designs and conducts a range of biotransformation (BTX) studies for ADCs (see below). Through strategic partnerships, BTX efforts are integrated with bioanalytical and in vitro ADME studies to deliver comprehensive DMPK support for clients' ADC programs.

	Discovery	Preclinical Development	Clinical Development
	Support lead optimization	Support preclinical candidate characterization and IND filing	Support clinical development and regulatory approval
BTX	<ul style="list-style-type: none">•Profile payload-containing components in liver S9, liver lysosomes & cell lines•Compare rates of payload release from ADC in vitro•Identify payload-containing components in plasma incubation	<ul style="list-style-type: none">•In vitro metabolism of a payload across species•Tituss distribution of a radiolabeled ADC in pharmacological models•Profile payload-related components in animal plasma after dosing an ADC•ADME study of a payload in rodents and monkeys	<ul style="list-style-type: none">•Profile payload-containing components in human plasma after dosing an ADC•Radiolabeled ADME study of an ADC and/or a payload in rats•Radiolabeled ADME study of an ADC and/or a payload in monkey
In Vitro ADME	<ul style="list-style-type: none">•Payload: metabolic stability, Payload: Caco-2•Payload: plasma protein binding•ADC: stability in plasma/whole blood	<ul style="list-style-type: none">•Payload: CYP inhibition/induction•Payload: P-gp/BCRP inhibition and substrate analysis•Payload: Metabolizing enzyme phenotyping	<ul style="list-style-type: none">•Payload: transporter inhibition•Payload: transporter substrate analysis
PK & BA	<ul style="list-style-type: none">•PK screening of ADCs in rodents and monkeys•PK/PD screening of ADC in pharmacology models•In vivo DAR analysis	<ul style="list-style-type: none">•Full PK analysis (Total Ab, conjugated ADC, payload) in rodents and monkeys•GLP bioanalysis of ADC & payload in Tox studies•Preclinical immunogenicity and biomarker analysis	<ul style="list-style-type: none">•GLP bioanalysis of ADC compositions including total antibody, conjugated ADC , payload in clinical and Tox studies•Biomarker and immunogenicity analysis