



SYNOPSIS

**Dissertation Topic: An exploratory dive into the world of Antibody
Drug Conjugates**

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Title

An exploratory dive into the world of Antibody-drug conjugates

Introduction

Antibody-drug conjugates (ADCs) are a specific class of drugs that are designed to provide a targeted therapy for treating various diseases. At present, they are widely used for cancer treatment and are also used for other therapeutic purposes such as immunology, hematology, infectious etc. ADCs are complex molecules that consist of an antibody attached to a biologically active cytotoxic payload or drug. Unlike traditional chemotherapy drugs that can harm healthy cells along with cancer cells, ADCs are designed to target and treat only the affected cells. This study aims to provide a comprehensive understanding of ADCs, their components, mechanism of action, as well as information about the drugs that are currently in clinical phases and those that have already been approved.

Research Question

What is the current landscape of ADCs in terms of drugs that are in clinical phases and those that have already been approved and how do the components of ADCs, including the antibody and cytotoxic payload, contribute to their efficacy and safety profile?

Objectives

1. To make a comprehensive summary of ADCs who are in the clinical phase along with their Antibody, Linker, and payloads
2. To investigate approved ADC from 2020-2024 along with their targeted indications.
3. To assess the growth and increasing trend of ADCs across various therapy areas over time
4. To examine different Indication for which ADCs are approved

Hypothesis

The targeted delivery of cytotoxic payloads by antibody-drug conjugates (ADCs) will substantially improve treatment accuracy and effectiveness across various diseases, leading to significant advancements in therapeutic outcomes in oncology and beyond.

Material And Methods:

1. **Study Design:** This study employs an observational study-based approach through a retrospective literature review.
2. **Setting:** As this is a literature-based study, there is no physical study setting involved.
3. **Study Population:**
 - Inclusion Criteria: Recent studies and publications (within the last five years) on Antibody drug conjugates and companies' data regarding the ongoing clinical trials.
 - Exclusion Criteria: Studies not directly related to ADC advancements.
4. **Study Tools:** Comprehensive literature search using databases such as NIH, PubMed, Scopus, CT.gov, Web of Science, and Google Scholar, according to predefined inclusion and exclusion criteria.

5. **DURATION OF STUDY:** 3 Months
6. **Sample Size:** All relevant studies and publications meet the inclusion criteria.
7. **Sampling Technique:** The sample size for this study encompasses all relevant studies and publications meeting the inclusion criteria. The methodical review methodology safeguards that all available literature is within the defined timeframe i.e., 5 years and criteria is considered, maximizing the completeness of the review.
8. **Data Collection Procedure:** Relevant scientific articles, reviews, clinical trials, and research papers will be collected and analyzed based on predefined inclusion and exclusion criteria, such as publication date range, language, study design, and relevance to the research question.
9. **Operational Definitions:** Antibody-drug conjugates, Targeted therapies

Data Analysis Plan

Qualitative & Quantitative analysis of the collected literature will be performed to identify and analyze a deep understanding of ADC, their mechanism, trends etc. Appropriate data extraction and quality assessment tools will be used to ensure the reliability and validity of the review process.

Ethical Considerations

This is a literature-based study, and no direct involvement of human participants is required. Appropriate citations and references will be provided to respect intellectual property rights.

Implications Of Research

This systematic review will provide a deep understanding of ADCs, their components, mechanism of action, as well as information about the drugs that are currently in clinical phases and those that have already been approved.

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