New Antibody Drug Conjugates (ADCs) presented at the AACR 2024 Annual Meeting

Antibody Drug Conjugates (ADCs) were one of the most popular drug modalities presented at the AACR annual meeting last month.

NEW YORK, NEW YORK, UNITED STATES, May 22, 2024 /EINPresswire.com/ -- Another exciting American Association for Cancer Research (AACR) annual meeting convened last month, featuring the presentation of over 500 new, not yet approved, cancer therapeutics in the pipeline. Antibody-Drug Conjugates (ADCs) represented one of the largest modalities of drugs, with 70 new ADCs presented. The majority of these (55%) are in preclinical development, while the rest have initiated clinical trials. The 70 new ADCs presented at AACR 2024 are being developed by 48 different companies. Of these companies, 23 (48%) are privately owned, with over half (52%) of these privately owned companies headquartered in China. These findings are based on the OBiS Insights AACR 2024 report, which contains detailed profiles of these new cancer therapeutics in terms of mechanism of action, clinical performance, and company profiles.

The OBiS Insights Report is available for free to biotech and pharmaceutical companies, as well as to oncologists, other caregivers, and academic researchers. Of the 70 new ADCs presented at AACR 2024, 12 will be featured at the upcoming American Association of Clinical Oncologists (ASCO) annual meeting at the end of this month.

There are three key positive trends in the development of ADCs: (1) the expansion of targets, (2) the development of more specific payloads, and (3) the application of ADC conjugate technologies to other new drug modalities.

(1) EXPANSION OF ADC TARGETS

The ADCs presented at the AACR meeting involved 35 different drug targets, with the most popular being: TROP2 (9 ADCs), EGFR (6 ADCs), HER2 (6 ADCs), cMET (5 ADCs), and Nectin-4 (5 ADCs). However, the majority of the ADCs presented (60%) had unique targets compared to the others. At last year’s ASCO Breakthrough meeting in Japan, Dr. Anthony Tolcher, a medical oncologist and co-founder of @NextOncology, described a "capital conundrum" where investors tend to prefer lower-risk approaches by using already approved targets and payloads. The ADCs presented at this year's AACR meeting, with the expanded number of targets, seem to indicate a welcome shift toward greater innovation in this area.

Additionally, several of the ADCs are based on bispecific antibodies which offer the potential for an enhanced therapeutic effect and lower toxicity. These bispecific ADCs include Biotheus' EGFR x HER3 ADC (PM1300), DAC Biotech's TROP2 x EGFR ADC (DXC024), Innovent Biologics' B7-H3 x EGFR ADC (IBI3001), ProfoundBio's EGFR x cMET ADC (PRO1286), VelaVigo's EGFR x cMET ADC (VBC101) and TROP2 x Nectin4 ADC (VBC103), and Zymeworks' FRα x NaPi2b ADC.

(2) DEVELOPMENT OF MORE SPECIFIC PAYLOADS

ADCs have traditionally consisted of three key components: a targeting antibody, usually based on tumor-associated antigens (TAAs); a cytotoxic payload (also referred to as a warhead); and a linker which controls the release of the cytotoxic payload upon binding of the ADC antibody with the tumor antigen. There were two main types of payloads associated with the new AACR 2024 ADCs: (1) topoisomerase I inhibitors (TOP1i), representing nearly half (48%), and (2) microtubule-targeting agents (e.g., DM4, MMAE, MMAF, tubulysin), representing 36%. Many of the ADC payloads have been around for decades but were previously found to be far too toxic for direct administration. For example, the payload drug SN-38 is considered to be as much as 1,000 times more potent than the nearly three-decade-old cancer drug irinotecan (Camptosar®), which is a SN-38 prodrug.

There has been an emerging trend toward more specific payloads, such as Vincerx Pharma's VIP943 ADC, which uses a kinesin spindle protein inhibitor (KSPi) payload and is in clinical development for CD123+ hematologic malignancies. Additionally, there are immune-stimulating antibody conjugates (ISACs), such as Ambrx's ARX622, which consists of a TLR7 agonist payload, and Takeda's TAK-500, which uses a STING agonist payload.

(3) APPLICATION OF ADC CONJUGATE TECHNOLOGIES TO OTHER NEW DRUG MODALITIES

Much of the technology and associated intellectual property is related to the linker technology that enables the payload to be released upon binding to the target. Several examples of new non-ADC conjugate technologies presented at AACR 2024 include Brightpeak Therapeutics' Antibody-cytokine conjugate (BPT567), Cidara Therapeutics' Drug Fc-conjugate (CBO421), BPGbio's Lipid-Drug Conjugate (BPM 31510), Aston Science's Aptamer-drug conjugate (AST-201), and Abdera Therapeutics' Antibody-based radiotherapeutic (ABD147).

ABOUT OBiS

OBiS is a privately owned, New York City-based healthcare analytics corporation offering a variety of products and services in business development, forecasting, new product planning, key opinion leader identification, market research, clinical trial recruitment analytics, and custom data services. OBiS primarily serves biotechnology and large pharmaceutical companies with the specialized development of validated AI agents. OBiS was founded in 2002 by Rick Beasley, former Director of Oncology Market Research for Bristol-Myers Squibb. In 2020, OBiS opened a

subsidiary office in Oloron-Sainte-Marie, France, as a simplified joint-stock company (SAS) entity.

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