Korea Drug Development Fund
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# Transforming the future of antibody therapeutics

**The Korea Drug Development Fund and its ADCaptain Project are helping to bring novel antibody therapeutics through the development pipeline to patients in need.**

The Korea Drug Development Fund (KDDF) translates cutting-edge science into patient benefits and market opportunities through its investment and support of the biopharma sector. As the largest public funder of drug research and development (R&D), KDDF invests more than $150 million a year in more than 100 promising projects from early discovery to the clinical-trial stage, while also providing business development support.

KDDF funds novel antibody development programs, including antibody–drug conjugate (ADC) drugs through the ADCaptain project. As of June 2023, KDDF has provided grants to 123 oncology pipeline programs, with antibody assets accounting for 34 programs, or 27% of the total, which includes 15 drug conjugates.

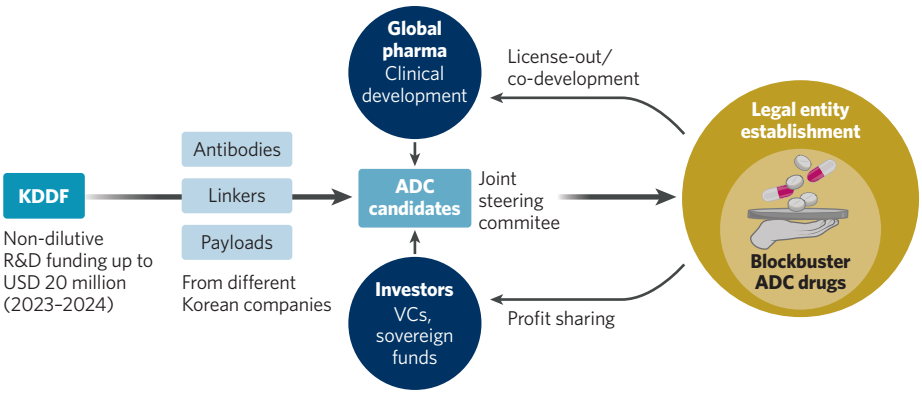


**Fig. 1 | Korea Drug Development Fund's (KDDF) ADC Cooperative Alliance Model.** KDDF began operating in 2011 and has, among others, provided funding to 123 oncology therapeutic programs including antibody–drug conjugates (ADCs). VC, venture capitalist.

## ADCaptain project

This project brings together and funds individual components of ADCs from multiple Korean companies. KDDF adopts the ADC cooperative alliance model (Fig. 1), which intends to address the significant unmet medical needs of certain solid tumors by developing blockbuster ADC drugs. KDDF is actively seeking partners for future co-development, particularly for clinical development, and for investment.

## Chong Kun Dang Pharmaceutical Corp

Chong Kun Dang (CKD) Pharmaceutical Corp. is a leading Korean pharmaceutical company with fully integrated capabilities from early discovery to clinical and commercial development. In recent years, CKD, which traditionally developed small-molecule therapeutics, has invested in other innovative modalities including protein-based therapeutics such as biosimilars, ADCs, and multi-targeting antibodies.

CKD is currently developing CKD-702, a bispecific antibody directed against epidermal growth factor receptor (EGFR) and the tyrosine-kinase mesenchymal-epithelial transition (MET) factor receptor for the treatment of lung cancer. CKD-702, which is currently in phase 1 trials, effectively neutralizes, internalizes and degrades both EGFR and MET receptors, disrupting downstream oncogenic signaling.

Promising preclinical studies have shown that CKD-702 is efficacious in lung cancer tumor models harboring primary/secondary activating EGFR mutations, as well as EGFR exon 20 insertion mutations. CKD-702 also shows high efficacy in models with MET amplification, exon 14 skipping mutation, or resistance to MET tyrosine kinase inhibitors.

CKD-702 has a manageable safety profile and demonstrated antitumor activity in patients with MET exon 14 skipping at the recommended phase 2 dose. A phase 1 dose-expansion study (NCT04667975) is currently underway that is evaluating the efficacy of CKD-702 in selected lung cancer patients with aberrant MET and EGFR signaling.

## Genome & Company

Founded as an innovative R&D organisation in 2015, Genome & Company has grown through external collaborations, strategic investments, and mergers and acquisitions into a fully integrated biopharmaceutical company (FIPCO). Today, Genome & Company operates as a clinical-stage biotechnology company focused on the discovery and development of innovative therapeutics in immuno-oncology and central nervous system disorders—all of which are fueled by GNOCLE, a unique, proprietary bed-to-bench drug-development platform based on real-world clinical data.

Genome & Company's pipeline comprises two diverse therapeutic modalities: microbiome-based candidates, and novel target-based immune checkpoint inhibitors (ICIs). The company's most advanced ICI project, GENA-104A16, is an antibody to contactin4 (CNTN4), a cell-adhesion molecule belonging to the immunoglobulin superfamily. Many solid tumors overexpress CNTN4, which binds to the amyloid-β precursor protein (APP) present on T cells and exerts a negative effect on their function.

GENA-104A16 has generated promising in vivo evidence of efficacy. In a syngeneic mouse model, in which mice were transplanted with the colon carcinoma cell line CT26 engineered to overexpress CNTN4, GENA-104A16 inhibited tumor growth by 75% at a dose level of 1mg/kg. In addition, GENA-104A16 decreased the proportion of $T_{reg}$ cells and increased the proportion of tumor-infiltrating lymphocytes, $CD4^+$, and cytotoxic $CD8^+$ T cells in the tumors. GMP production of GENA-104A16 is completed, and a phase 1 IND submission for is planned for the second half of 2023 in Korea.

## Wellmarker Bio

Wellmarker Bio (WMBIO), the first company to be spun out from the Asan Medical Center in Seoul, Korea's largest hospital, focuses on developing biomarker-driven, first-in-class anticancer drugs targeting unmet medical needs. WMBIO is continuously discovering and validating novel targets through the target discovery system and developing anticancer agents.

These include WM-A1, a novel immunotherapeutic antibody for treating non-small cell lung cancer (NSCLC) in patients expressing low levels of programmed death ligand (PD-L1), or no PD-L1 at all. WM-A1 has demonstrated high immunotherapeutic efficacy across different in vitro and in vivo models, as well as synergistic efficacy when combined with an anti-PD-1 antibody and has now entered phase 1 clinical trials in Korea.

The phase 1 clinical program will include a phase 1b study of WM-A1 combined with the anti-PD-1 antibody pembrolizumab (Keytruda; Merck) in NSCLC, which will be conducted in collaboration with MSD. Further, because the target of WM-A1 is highly expressed in various cancer types, WMBIO is working to expand the target patient group of WM-A1 from NSLCLC to other solid tumor indications. With the potential to overcome the limitations of existing immunotherapeutic drugs, WMBIO welcomes discussions with development partners to maximize the potential of WM-A1.

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