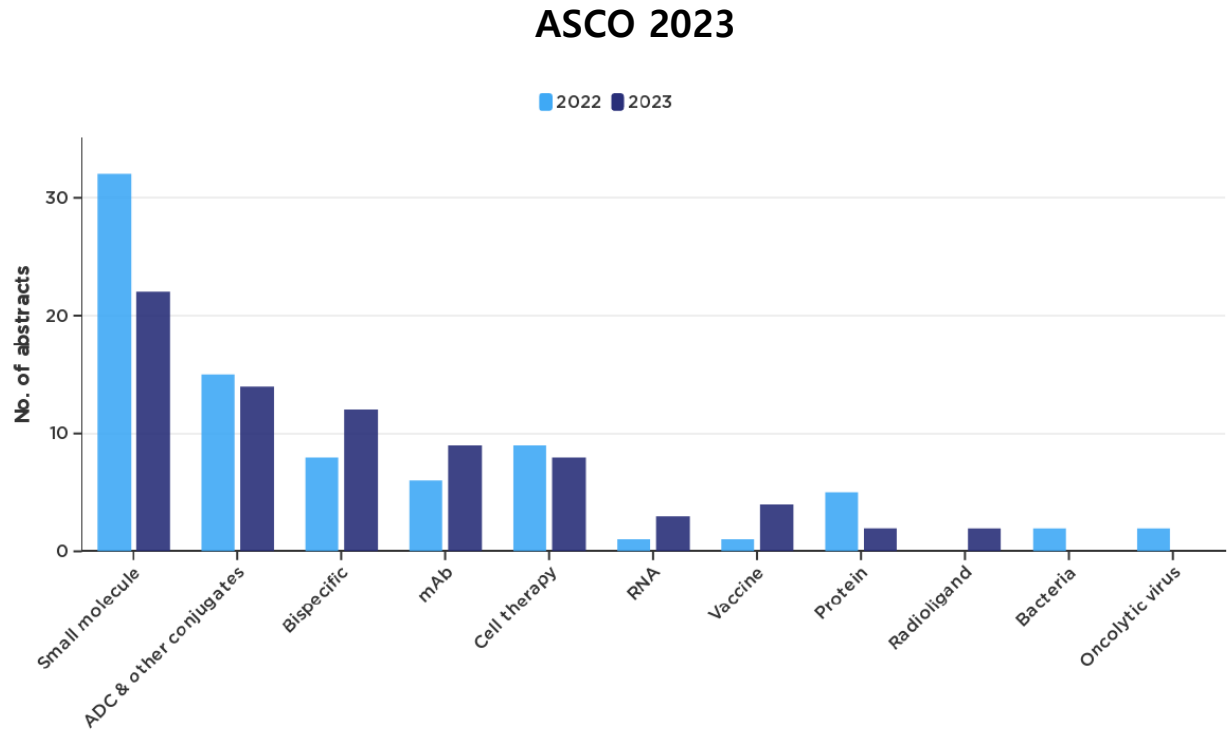


Modality Change in New Drug Development

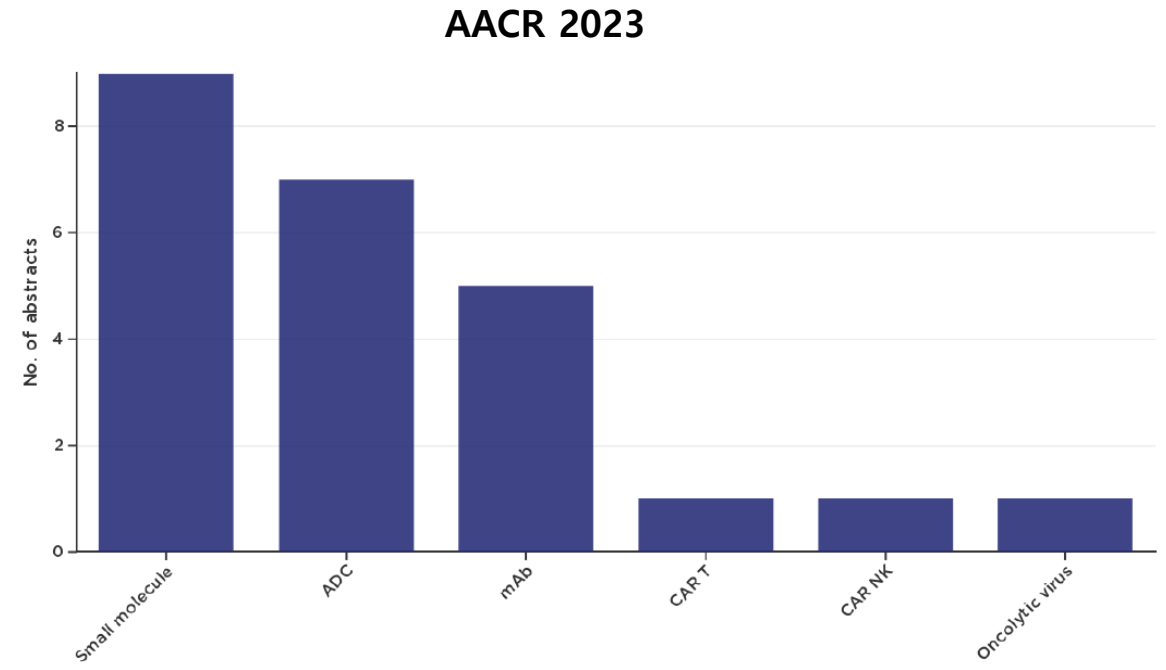
- I. Latest First-In-Human trials by Modality
- II. 10 Years of Modality Change for Cancer Treatment
- III. Dynamics of Chemical Drug Development
- IV. History of Biological Drug Approvals

I. Latest First-In-Human Trials by Modality

New modalities(ADC, Drug conjugates, BsAb, CGT, etc.) ↑ for cancer treatment



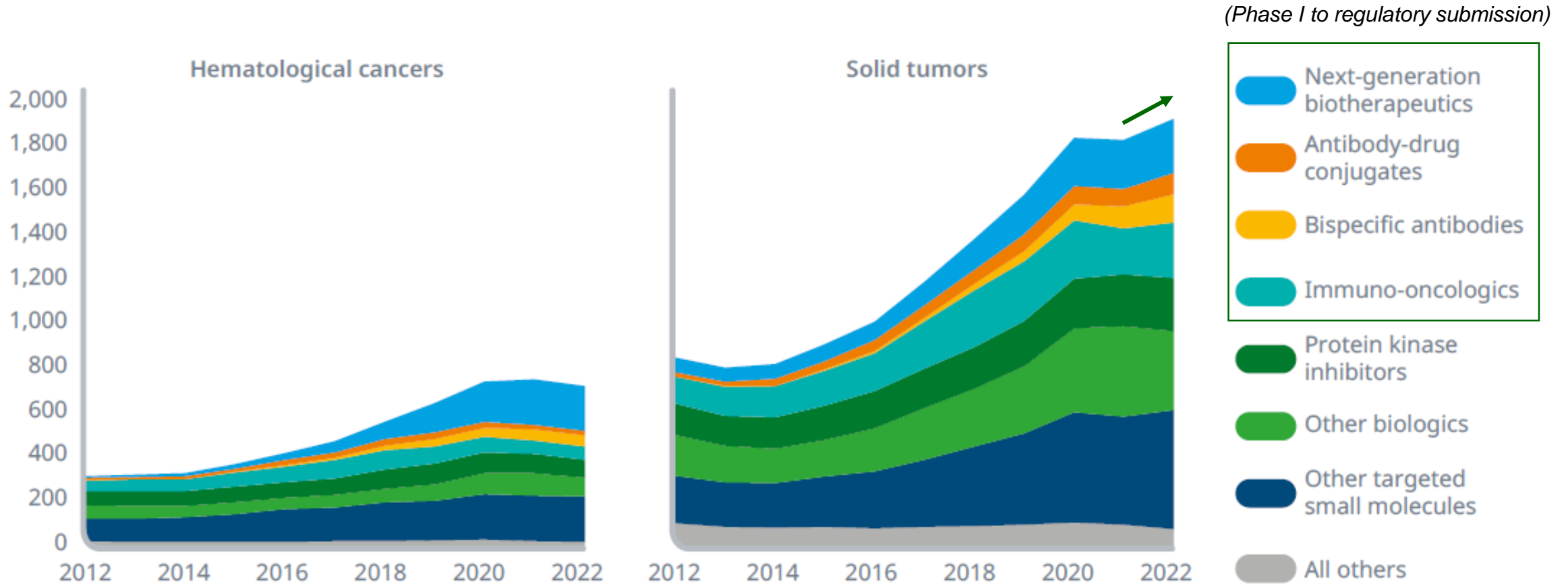
2023 Biocentury



2023 Biocentury

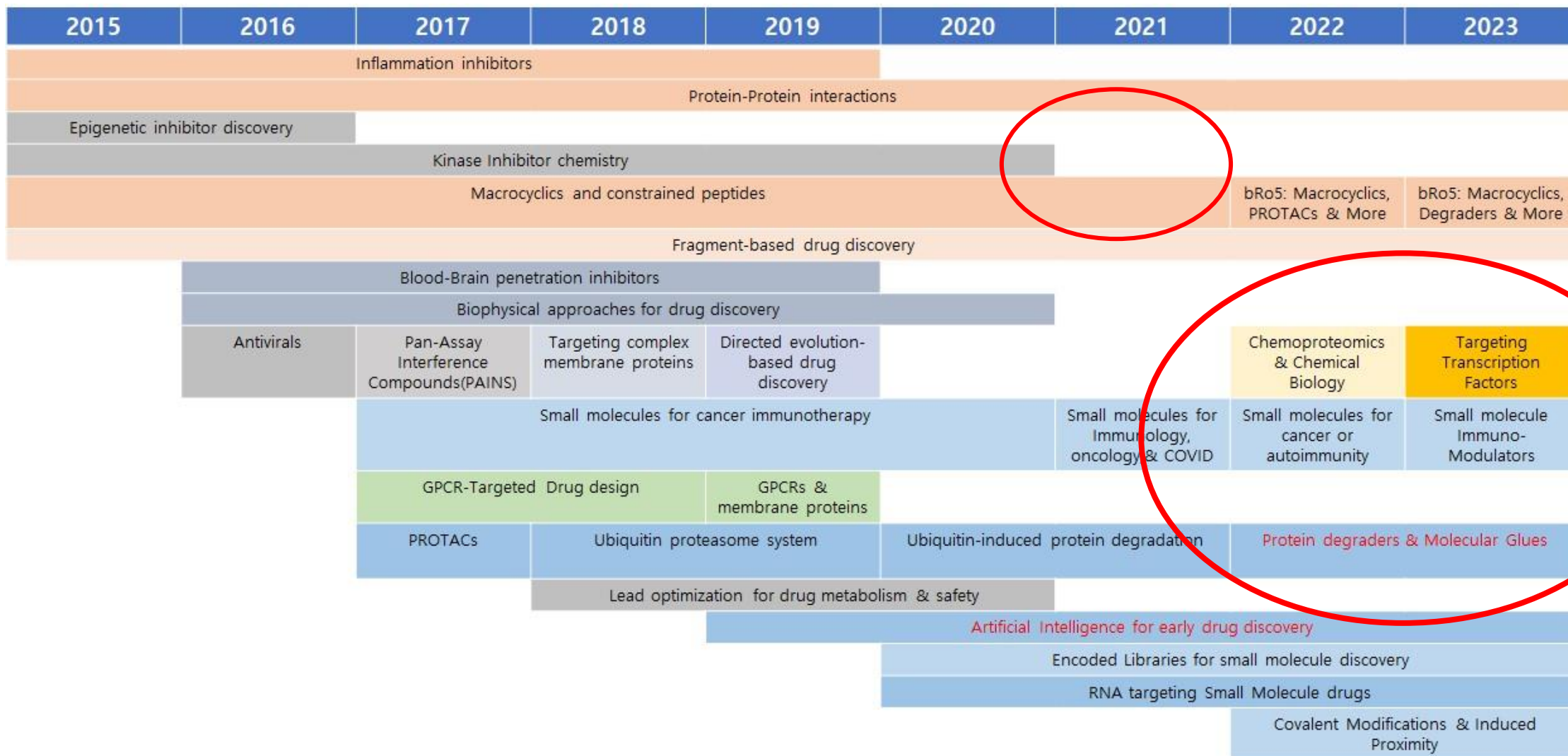
II. 10 Years of Modality Change for Cancer Treatment

Growing new modality area(ADC, BsAb, IO, CGT)



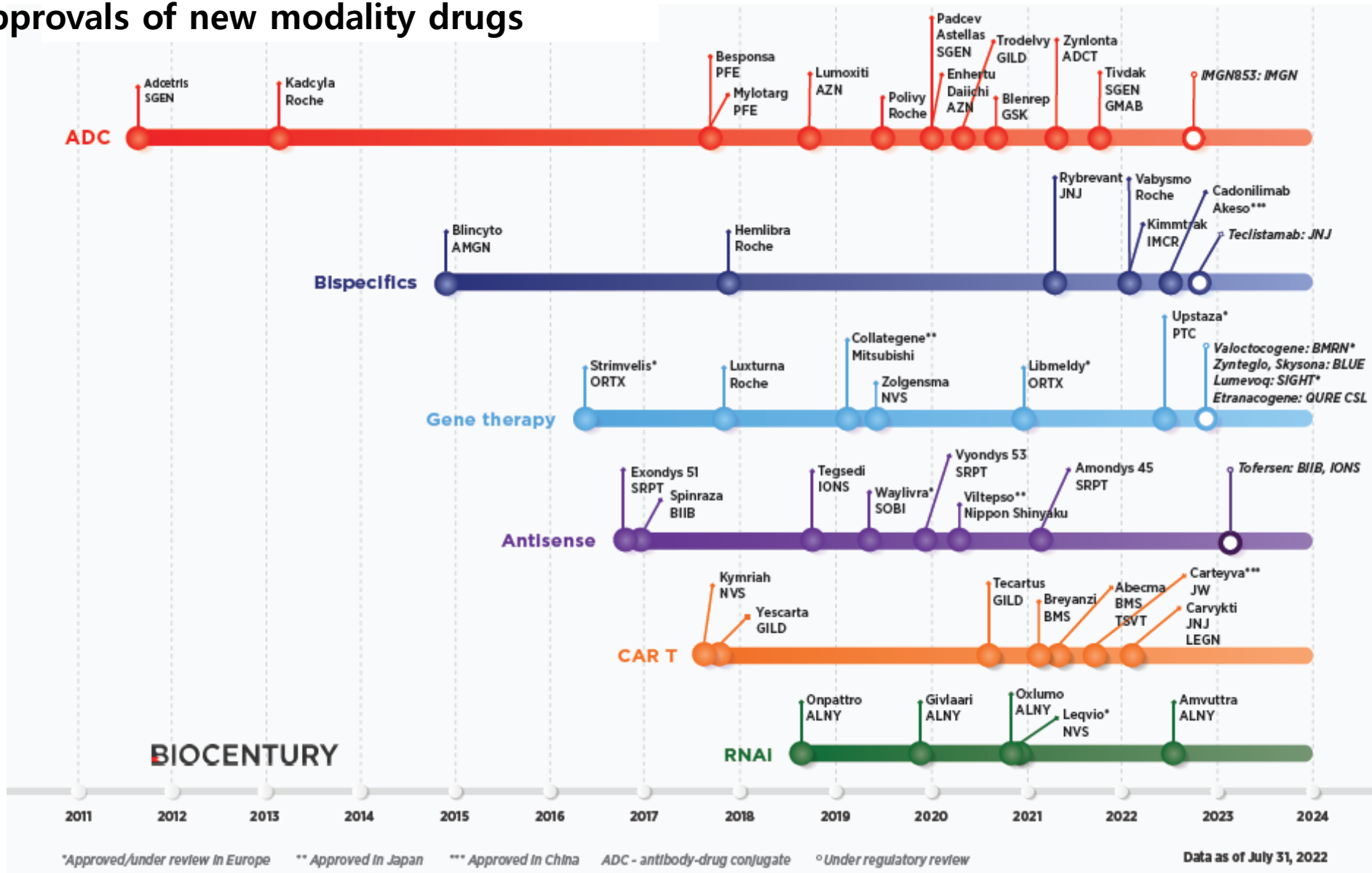
III. Dynamics of Chemical Drug Development

Main research themes of chemical new drug development



IV. History of Biological Drug Approval

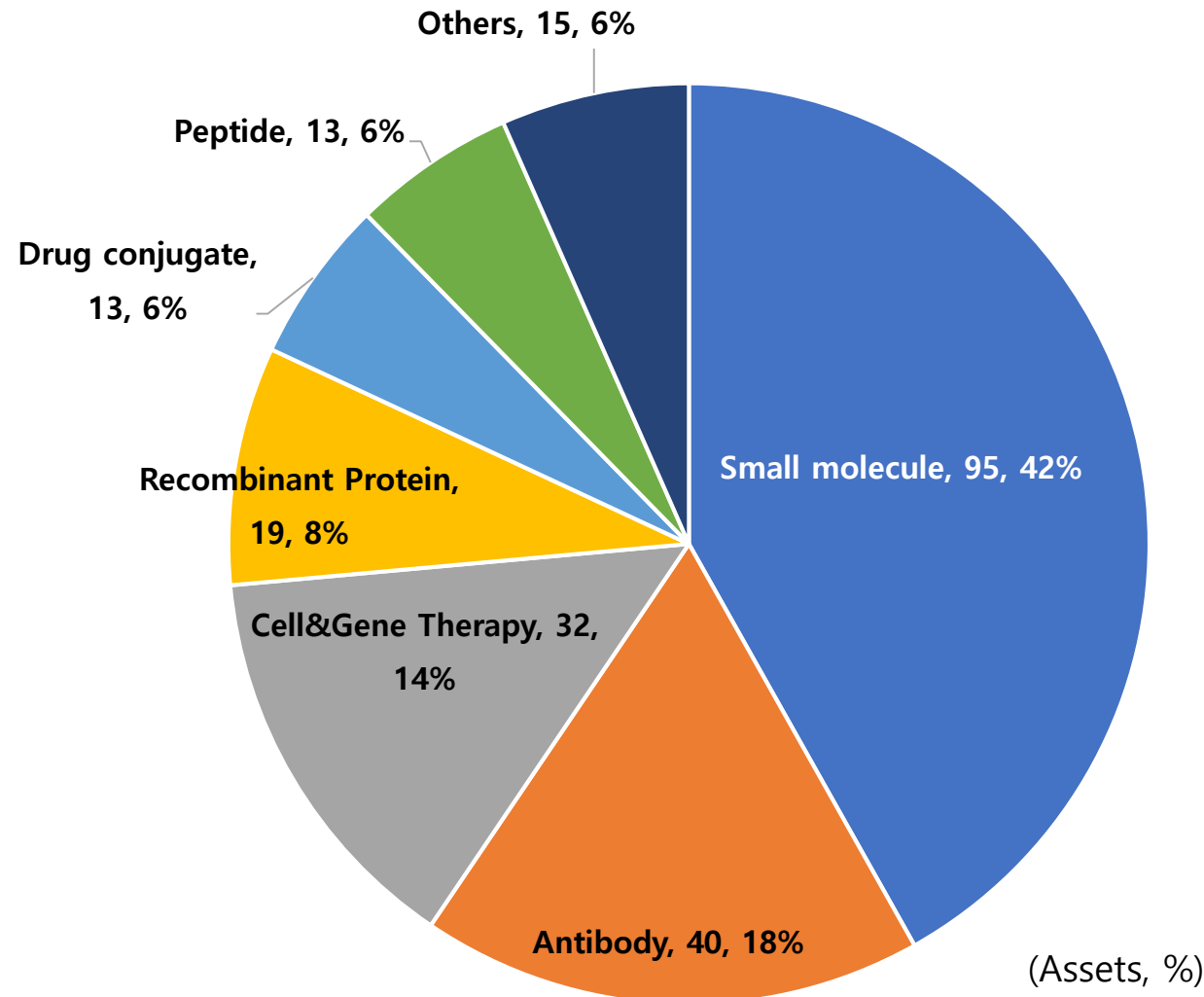
First approvals of new modality drugs



V. Modality

| KDDF Pipeline('21~'22, Tot. 227 assets)

Small molecule(42%) > Antibody(18%) > CGT(14%) > Recombinant Protein(8%) > Drug conjugate(6%) > Peptide(6%) > Others(6%)



10 Big Pharma's pipeline

Modality	Pipelines	Ratio
Small molecules	455	40%
Antibody	418	37%
Vaccine	72	6.4%
Protein	52	4.6%
ADC	45	4.0%
Cell Therapy	28	2.5%
Gene Therapy	20	1.8%
RNA	17	1.5%
Peptide	11	1.0%
Others	9	0.8%
Total	1,123	100%

※ J&J, Pfizer, Roche, AbbVie, Novartis, MSD, GSK, BMS, Sanofi, Takeda (Homepage, BioCentury, GlobalData, as of March 2023)

Contact: H. Samuel Muk
CEO

Korea Drug Development Fund

sam.muk@kddf.org

kddf_bd@kddf.org