The Arc of Innovation

Regional strengths in new modalities signal Asia as a rising source of value-driving assets

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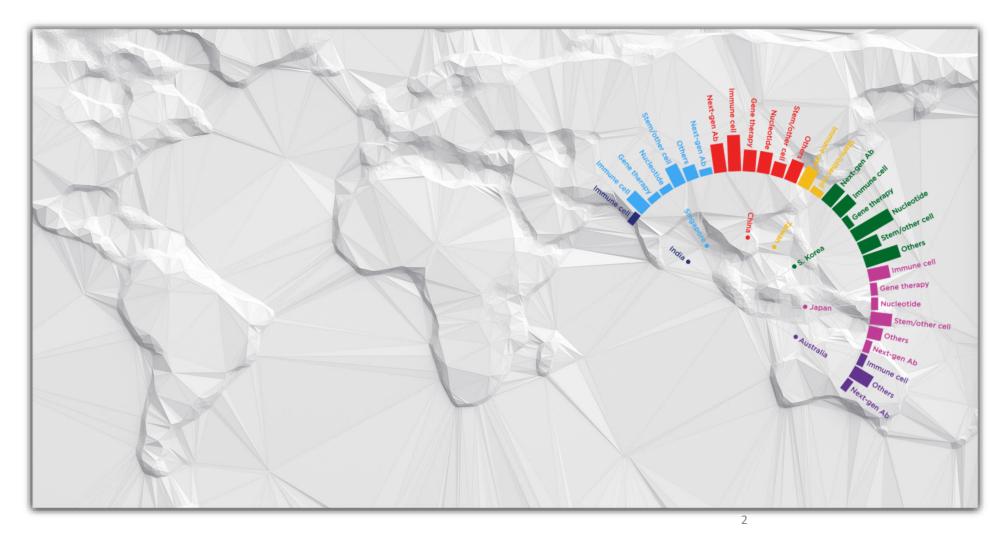
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Across APAC, an Arc of Innovation arises

From India through Asia to Australia, entrepreneurs push biomedical frontiers

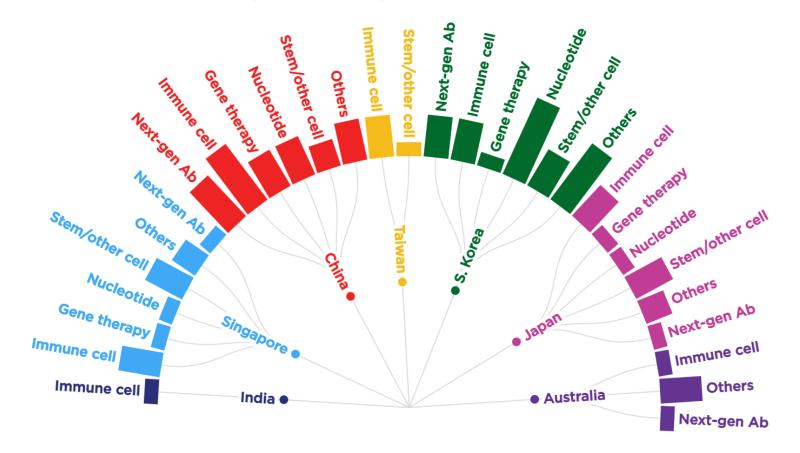


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New technologies signal APAC competitiveness

Regional strengths cover the major new modalities, making Asia-Pacific a growing destination for sourcing value-driving assets. The assets in the chart below have yet to be partnered.



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Unpartnered programs in advanced modalities from Asia-Pacific biotechs founded since 2014

Source: BCIQ

Immune cell therapies are a pan-APAC forte

Immune cell pipeline: Most advanced unpartnered program in each location Preclin Ph I Ph II Ph III Reg Mkt Preclin Ph I Ph III Ph III Reg Mkt cell Singapore Singapore Singapore Singapore Singapore

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	Preclin	Ph I	Ph I/II	Ph II	Ph III	Reg	Mkt		
CAR T cell									TCR o
India Immuneel								۲	Singap LionTC
Australia Carina								*	China TCRCui
China CARsgen								*):	NK ce
Japan Noile-Immune									<mark>China</mark> Qihan
Singapore CytoMed								C	Austral Carther
South Korea Eutilex									South P Aimed
Taiwan ARCE									South P Cellato
TIL									Taiwan ARCE
<mark>China</mark> GritBio								*0	NKT o
T cell									Singap CytoMe
South Korea Eutilex									China KAEDI
<mark>Japan</mark> Junten									
γō T cells									
Taiwan Ever Supreme									

 While almost all places on the biotech map have innovative CAR T assets, other unpartnered T cell programs are more regional. And while many companies have partnered their therapies (not shown), existing and newly minted programs suggest continued rich pickings for East-West deals

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Fewer unpartnered next-gen Abs: a hot market?

Next-generation antibody pipeline: Most advanced unpartnered program in each location



 Next-gen antibodies are an established strength of APAC, but the relative lack of unpartnered programs may indicate many of the top assets have been snapped up in E-W deals. China and South Korea are centers of excellence across the different types of advanced antibody modalities, but Australia features in radioantibodies – an increasingly competitive field – and expanding expertise in ADCs and bispecifics put Singapore and Japan companies in play

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• Smart Nuclide has a protein replacement therapy (traditional modality) in registration

Technology hotspots start to appear

S. Korea and China are growing centers for gene therapies and RNA modalities

Gene therapies Ph I/II Ph II Ph III Preclin Ph I Reg Mkt Gene therapy (AAV) China Neurophth Gene therapy (undisclosed vector) ***** South Korea Rznomics Japan GTRI Singapore Nuevocor Gene therapy (lentivirus) China BDgene Gene therapy (vector-viroid-mRNA) China BDgene

 While Singapore's RNAscence has taken an RNAi therapy to market, S. Korea and China feature several new RNA types and gene therapies that are as yet unpartnered

Ph I Ph I/II Mkt Preclin Ph II Ph III Reg siRNA Singapore RNAscence ***** South Korea SiRNAgen China Ractigen **Therapeutic DNA vaccine ***•* South Korea Aston Sci **mRNA** China Stemirna ***** South Korea RNAgene **Antisense oligo ***•* South Korea Biorchestra circRNA South Korea *****•* NuclixBio microRNA Japan e-NA saRNA China Ractigen **Undisclosed RNA *** South Korea Biorchestra 6

Nucleic acid therapies

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Methodology

The analysis was designed to assess the state of innovation in new modalities across different regions in Asia-Pacific, focusing on companies formed within the last decade. To assess where future dealmaking may go, it highlights unpartnered assets, and to ascertain regional hotspots, it focuses on the most advanced programs in development for specified technologies

- The analysis was performed in Feb 2024. It includes:
 - Companies in Asia-Pacific founded since 2014
 - Products without partners to market in West
- Pipeline charts show most advanced product for each modality, in each region, from these companies
 - For example, for CAR T cells, the most advanced in India is Phase II, in Australia and China is Phase I/II, in Japan, Singapore and S. Korea is Phase I, and in Taiwan is preclinical
- Radial chart shows total number of modalities by class within each country.
 - For example, Singapore's unpartnered assets cover three new modality types within immune cells (CAR T, TCR, NKT cells)
- Analysis excludes:
 - Traditional modalities, including small molecules, antibodies, fusion proteins, peptides and preventative vaccines
 - Biosimilars

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