MBL
A JSR Life Sciences Company

Antibody-Drug Discovery Service

1. Extensive experience and know-how accumulated since establishment of our company

Development of antibody products: **More than 4,000 items**
Receiving orders of contract services: **More than 10,000 orders over 18 years**

2. Broad range of antibody engineering technologies and ability to respond to various needs

Animal species for producing monoclonal antibodies: **8 species**
Antibody generation-related licenses: **More than 20 licenses**

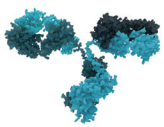
3. Technological competence to develop therapeutic antibody drug seeds

Licensed-out patents: **6 patents**
Target molecules, to which MBL successfully developed antibodies: **More than 200 molecules**

Basic research
Drug discovery/pharmacology

Clinical trial/drug approval
Bioprocess

Antibody development MBL



CDx development MBL

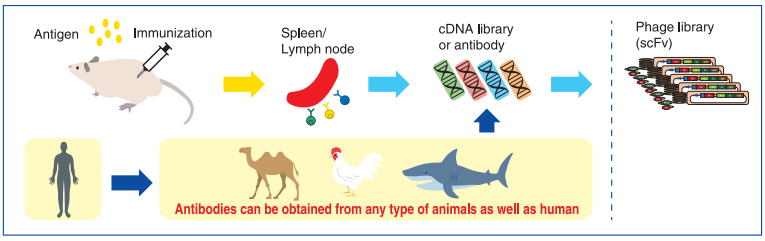
Pharmacology CrownBio

Antibody production technology SELEXIS

CDMO for biologics KBI BIOPHARMA

Strength in MBL Monoclonal antibody production technologies

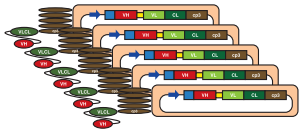
With regard to antibody phage libraries as sources of antibody acquisition, MBL has multiple human antibody libraries created from different races and ages. In addition, MBL is promoting the creation of an in-house library of antibodies derived from animals immunized with the desired target molecules. MBL successfully isolated many patentable fully human monoclonal antibodies using phage display technology, licensed-out to pharmaceutical companies.

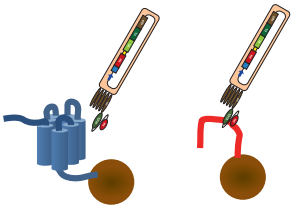


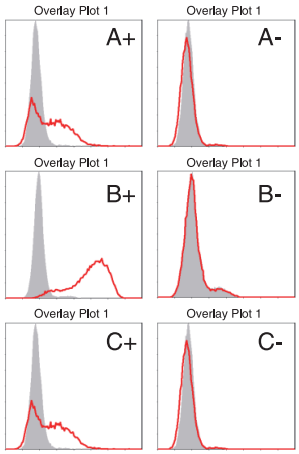
MBL can propose the best solution in each target.

Example of screening of antibodies to GPCR

Library	Immunogen	Method of panning	Evaluation by FCM
Human Ab libraries or Libraries from immunized animals	1) Cell line over expressing full length membrane protein	**Cell panning** ・Ideal for native conformation ・Good for PTMs	**Detection of GPCR protein on cell line by FCM for scFv**
	2) Solubilized membrane protein from cell line	**Immobilization to magnetic beads** ・Presenting target molecule only ・Challenging for native conformation	
	3) N-terminus of peptide		
	4) extra cellular loop peptide		

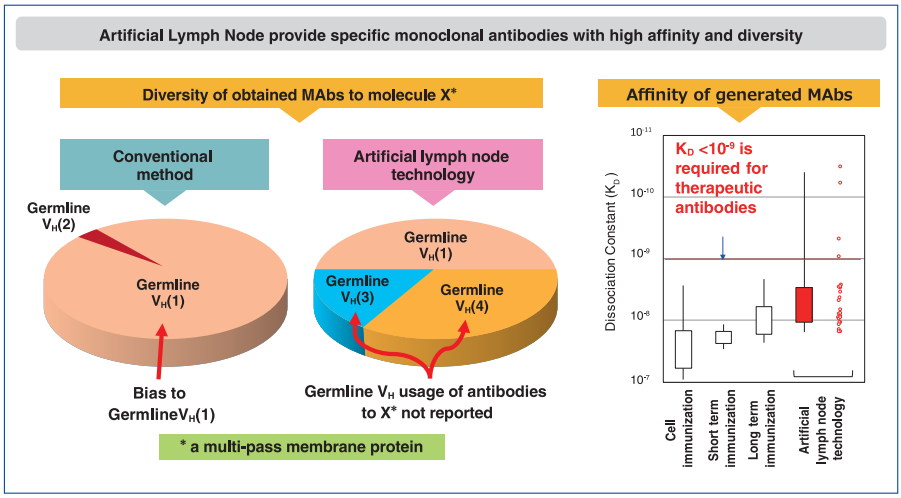


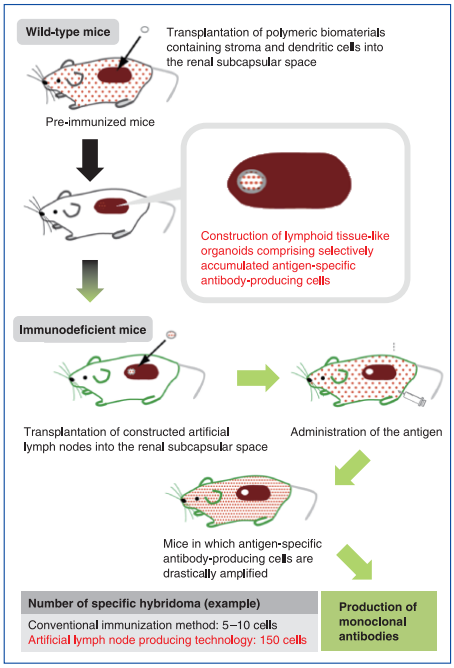




Artificial Lymph Node Technology

MBL's artificial lymph node technology was developed for obtaining high affnity antibodies to target antigens. When an artificial lymph node is formed in a mouse, you can obtain antibodies with 10 to 100 times higher titer than that in normal mice.
Also this MBL technology can provide antibodies with extremely high binding affinity for future therapeutic antibodies.





Optimization of antibodies

MBL is capable of producing chimeric antibodies, humanized antibodies, scFv, and other engineered antibodies. The company also has an antibody modification technology (affinity maturation by phage display technology) to dramatically improve the reactivity of antibodies.

The information is as of October 2021. Please contact us for the latest information. Please read the date sheets carefully before use.

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Provided by

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