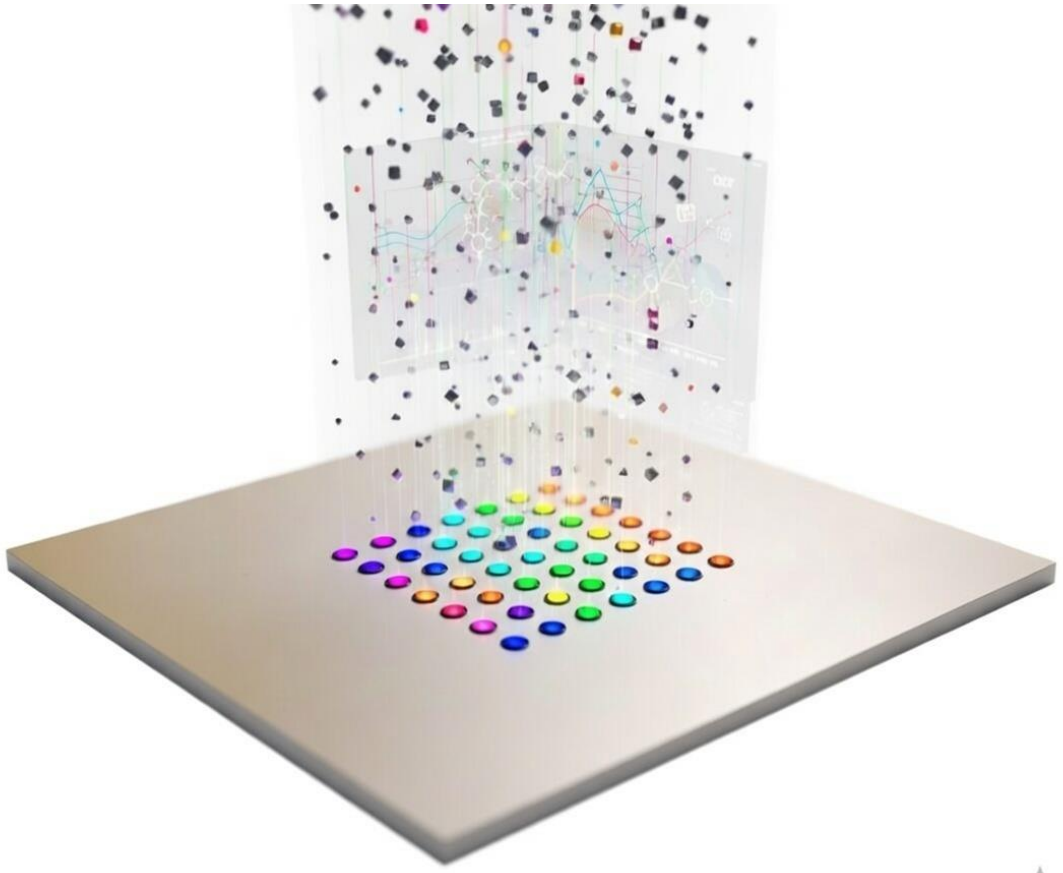
iCLUEBIO

Maximultix-ATD on iMSPR-PleX

Rapid and Precise Discovery
of Antibody Therapeutics

Maximultix

Ready-to-Use,
Beyond the Dimenstions of Analysis
with Multiplex Pre-array sensor chip



No more one-by-one verification.

No complex preparation is required.

Maximultix is a fully pre-arrayed sensor chip, engineered to be ready the moment you are. Simply load it into our dedicated **iMSPR-Plex** system and transform a single injection into a comprehensive stream of multiplexed data—captured simultaneously and instantly.

Maximultix-ATD

Antibody Therapeutics Discovery

The First Innovation. Everything for Antibody Discovery: Maximultix-ATD.

Maximultix is purpose-built for therapeutic antibody developers. Now, with just four strategic injections **(1 uM, 100 nM / pH7.4, pH6.0)** , you can simultaneously validate structural integrity, efficacy, half-life, and developability. Let the powerful multi-array technology of the Maximultix platform translate your antibody’s hidden potential into definitive, high-resolution data.

16 Validators

The 4 Pillars of MMx-ATD Analysis for Antibody Discovery.

1. Specificity: The Fundamental Performance.

We precisely capture every moment your antibody identifies and binds to its target, ensuring unwavering specificity.

2. Structure & Integrity: A Solid Foundation.

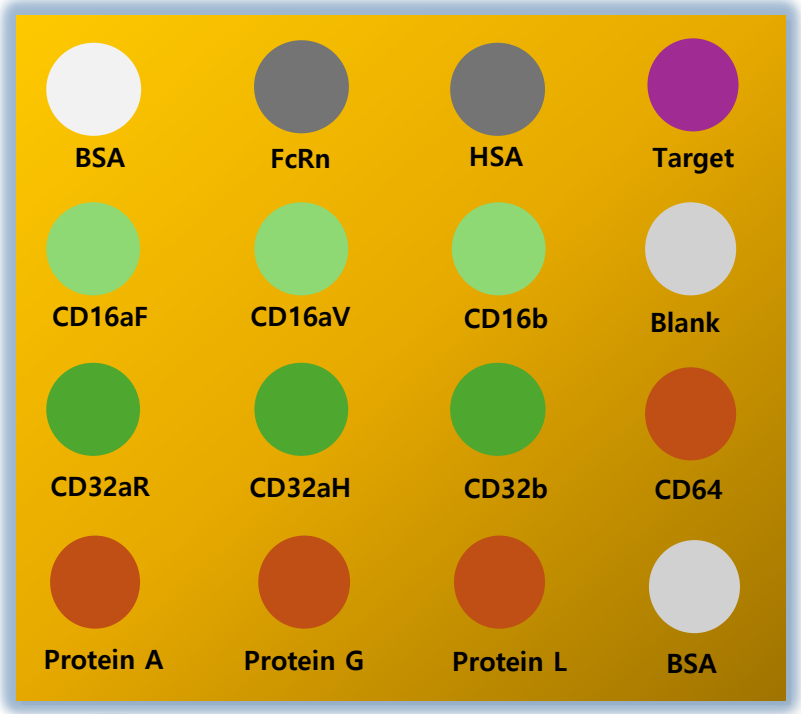
Instantly validate structural integrity and purification status through comprehensive Protein A/G/L and CD64 binding analysis.

3. Pharmacokinetics (PK): The Competitive Edge of Longevity.

Predict in-vivo half-life and establish optimal dosing guidelines by analyzing the pH-dependent binding profiles of FcRn.

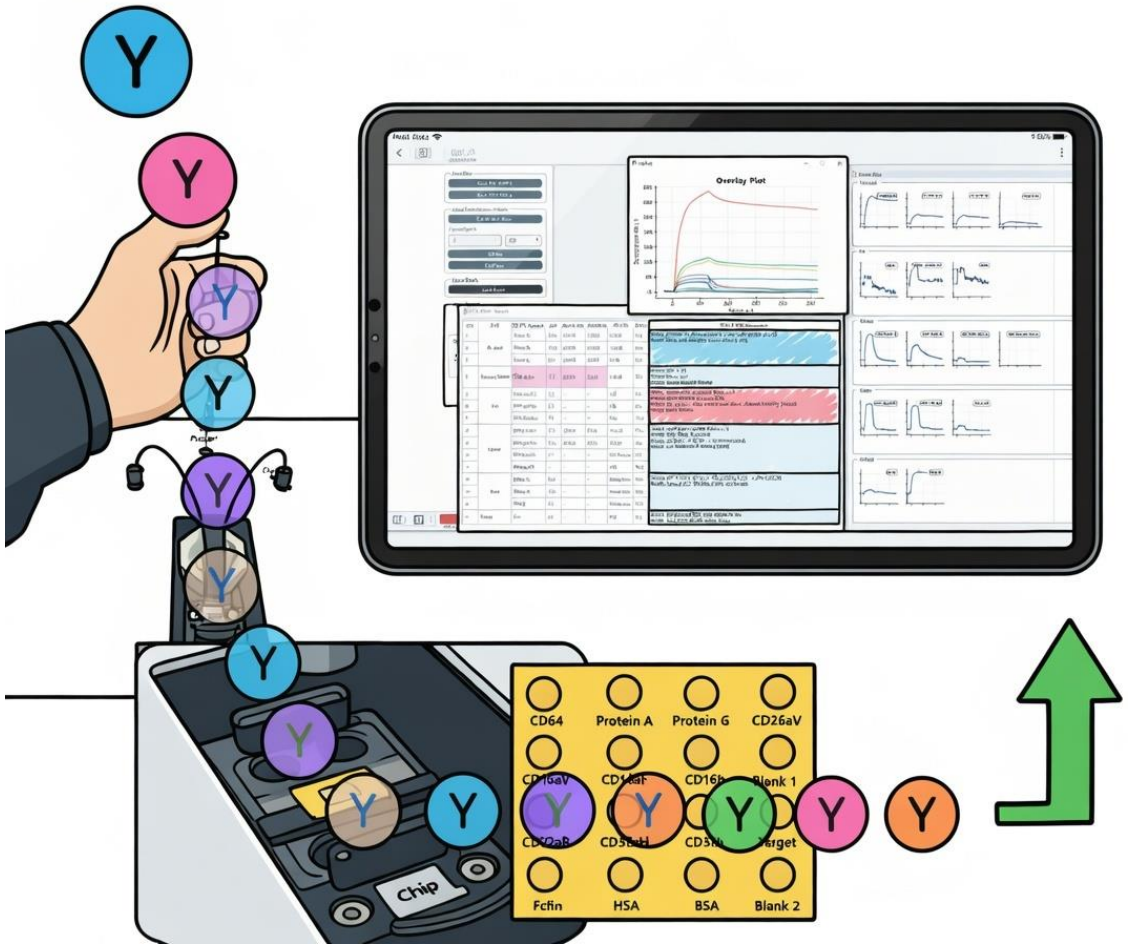
4. Effector Function & Safety: Where Efficacy Meets Security.

Maximize immune activation (ADCC) and minimize side-effect risks through sophisticated CD16 and CD32 binding pattern analysis.



Analysis Made Easy.

1. Insert the Maximultix-ATD sensor chip into the iMSPR-Plex
2. Open the dedicated ATD App within the Plex OS environment.
3. Inject samples across pH (6.0/7.4) /concentrations (100, 1000 nM)
4. Run the ATD Analysis App for instant, automated data processing and comprehensive reporting.



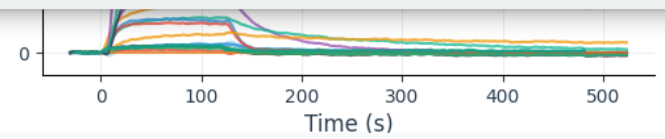
Insights Made Clear

Precision Diagnosis through Automated Multiplexing.

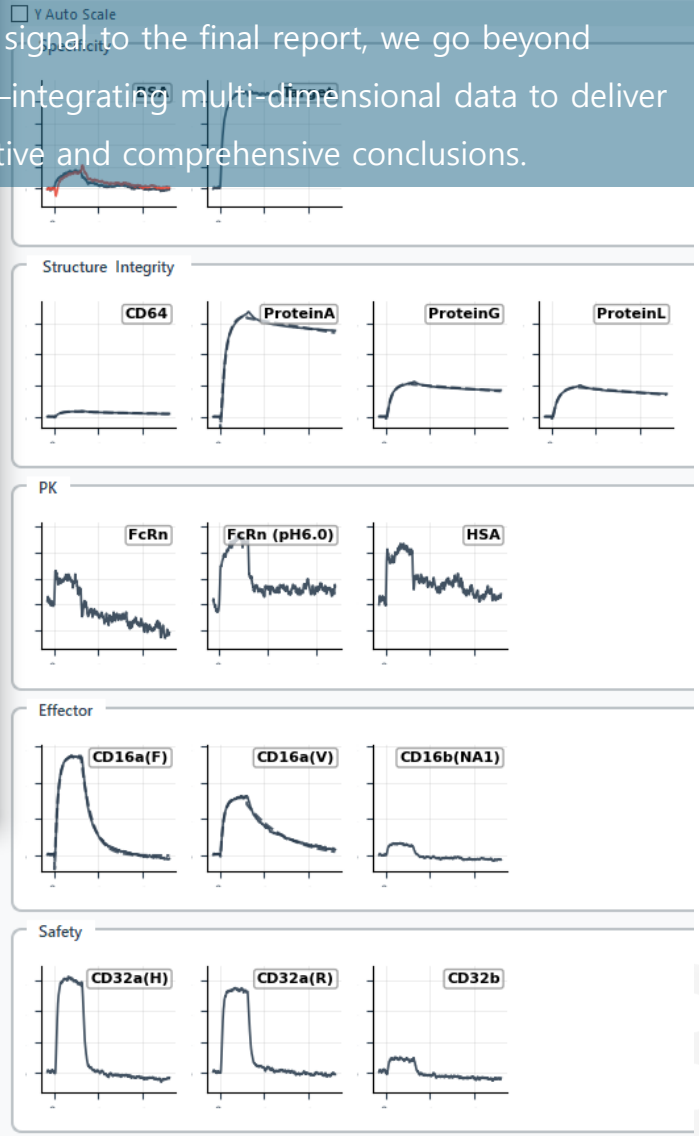
Our platform precisely diagnoses the optimal antibody candidates using automated multiplex-binding curve analysis. From the initial signal to the final report, we go beyond rapid research—integrating multi-dimensional data to deliver the most definitive and comprehensive conclusions.

Fc R Tests - Results

No.	분류	리간드 (Ligand)	ΔRU	kon (1/Ms)	koff (1/s)	KD (M)	Status	진단 및 평가 (Diagnosis)
1	Specificity	Target	44.4	6.1E+04	0.00014	2.2E-09	Pass	Criteria: ΔRU (Target) > ΔRU (BSA) AND KD < 1E-6 **Result: Pass** Criteria: Background/NSB signal should be low **Result: Background/NSB Check: Clean**
2		BSA	7.7	-	-	N.D.	Pass	
3	Structure & Integrity	Protein A	328.9	4.2E+04	0.0004	9.4E-09	Pass	Criteria: (Protein A > 50 or Protein G > 50) AND Protein L > 50 **Result: Structural Integrity: Intact (Fc/Fab OK)** Criteria: ΔRU (CD64) > ΔRU (BSA) **Result: Pass**
4		Protein G	108.8	4.2E+04	0.00058	1.4E-08	Pass	
5		Protein L	97.2	3.5E+04	0.00071	2E-08	Pass	
6		CD64 (FcγRI)	16.9	4.5E+04	0.0016	3.5E-08	Pass	
7	PK	FcRn (pH 6.0)	5.6	-	-	N.D.	Pass	Criteria: RU(pH6.0) / RU(pH7.4) Ratio > 1 **Result: [PK] Excellent (Long Half-life)** Criteria: RU < 20 => Clean Profile; RU > 50 => Albumin-Binding Detected **Result: Clean Profile**
8		FcRn (pH 7.4)	1.4	-	-	N.D.	Pass	
9		HSA (Albumin)	4.8	-	-	N.D.	Pass	
10	Effector	CD16a (V158)	32.1	5.9E+04	0.0054	9.1E-08	Pass	Criteria: ΔRU (CD16a_V) > ΔRU (CD16b) AND ΔRU (CD16a_F) > ΔRU (CD16b) **Result: High ADCC Potential** Criteria: CD16b < 20 RU (or < 3×baseline noise) **Result: Low Neutrophil Binding (Safe)**
11		CD16a (F158)	53.3	4.6E+04	0.02	4.4E-07	Pass	
12		CD16b (NA1)	4.9	-	-	Low Binding	Pass	
13	Safety	CD32a (H)	28.5	-	-	Steady-state	Pass	Criteria: ΔRU (CD32a H131) > ΔRU (CD32b) AND ΔRU (CD32a R131) > ΔRU (CD32b) **Result: Typical IgG1 Binding Profile confirmed.**
14		CD32a (R)	26.3	-	-	Steady-state	Pass	
15		CD32b	3.6	-	-	Steady-state	Pass	



Close



Result guide

1. Target Specificity

Criteria	Target > BSA, Target K_D < $1e^{-6}$ M (Cutoff affinity)
Pass	This indicates that the **antibody's variable region (Fv)** binds to the **target epitope** with high affinity. A significantly higher signal compared to the **BSA control** suggests a low risk of **off-target binding**, ensuring superior specificity.
Fail	**Low binding affinity** or excessive **non-specific hydrophobic adsorption**.

2. Structure & Integrity

Criteria	Protein A/G/L > 50RU, CD64 > BSA
Pass	**Stable quaternary structure.** Strong **CD64** and **Protein A/G/L** signals confirm **properly folded Fc/Fab** and high structural integrity.
Fail	**Structural deformation** or **Fc/Fab degradation**. Incomplete folding or aggregation leads to loss of functional binding.

3. Pharmacokinetics (PK)

Criteria	FcRn (pH6.0) > FcRn (pH7.4)
Pass	**Optimal pH-dependent recycling.** High affinity at **pH 6.0** with rapid dissociation at **pH 7.4**, confirming superior in-vivo longevity.
Fail	**Poor recycling efficiency.** Lack of pH-specific binding leads to rapid clearance or lysosomal degradation.

4. Effector

Criteria	CD16a(V/F) > CD16b
Pass	**Strong CD16a activation.** High binding across both **V158/F158 polymorphisms** ensures potent **ADCC activity** and **broad patient coverage** regardless of genetic variation.
Fail	**Suboptimal ADCC activation.** High **fucosylation** of the Fc region likely inhibits **CD16a binding** and immune cell activation.

5. Safety

Criteria	CD32a(H/R) > CD32b
Pass	**Optimized immune modulation.** Effective **check-and-balance** between activating (**CD32a**) and inhibitory (**CD32b**) receptors ensures controlled immune responses.
Fail	**Imbalanced immune response.** Excessive **CD32b binding** may neutralize therapeutic efficacy, while disproportionate **activating receptor** signals increase the risk of **immune toxicity**.