



Antibody Analytics

SPR Services

Standardised Designs & Customisation
& Feasibility Options

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02

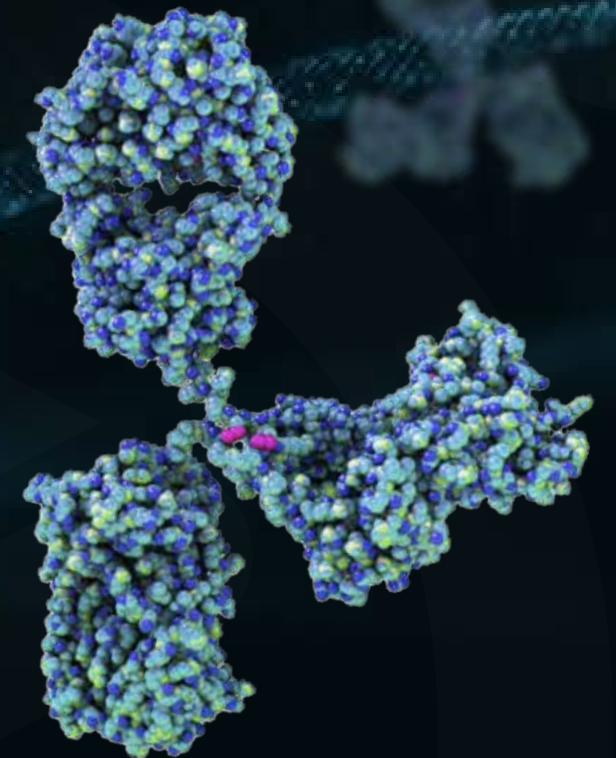
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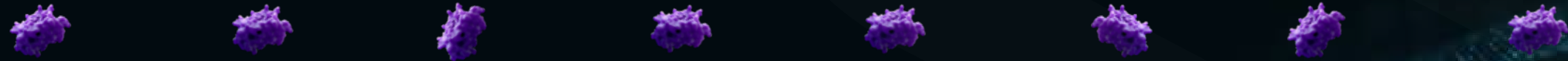
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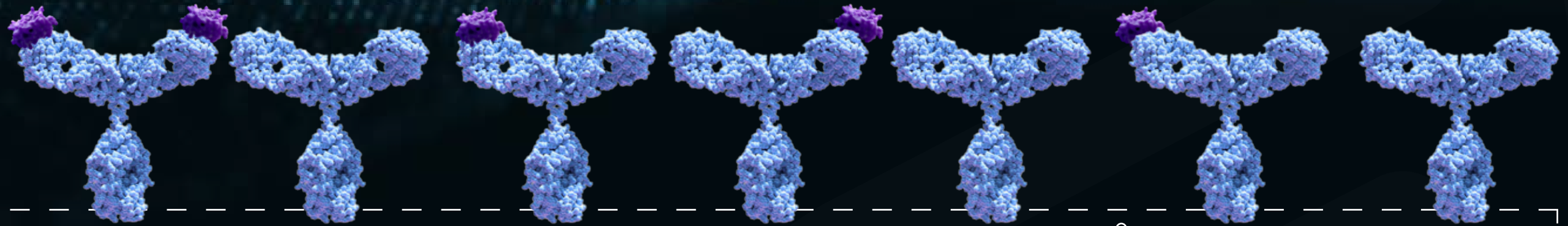


SPR 101

Analyte



Ligand



Sensor Chip Surface



Assay Designs 101



Technical Design Options



High Throughput
(8v1 / 1v8)



High Performance
(4v1 / 1v4)



Fc Binding Assays

**8 Ligands
against a single
Analyte**

**A single Ligand
against 8
Analytes**

**4 Ligands
against a single
Analyte**

**A single Ligand
against 4
Analytes**

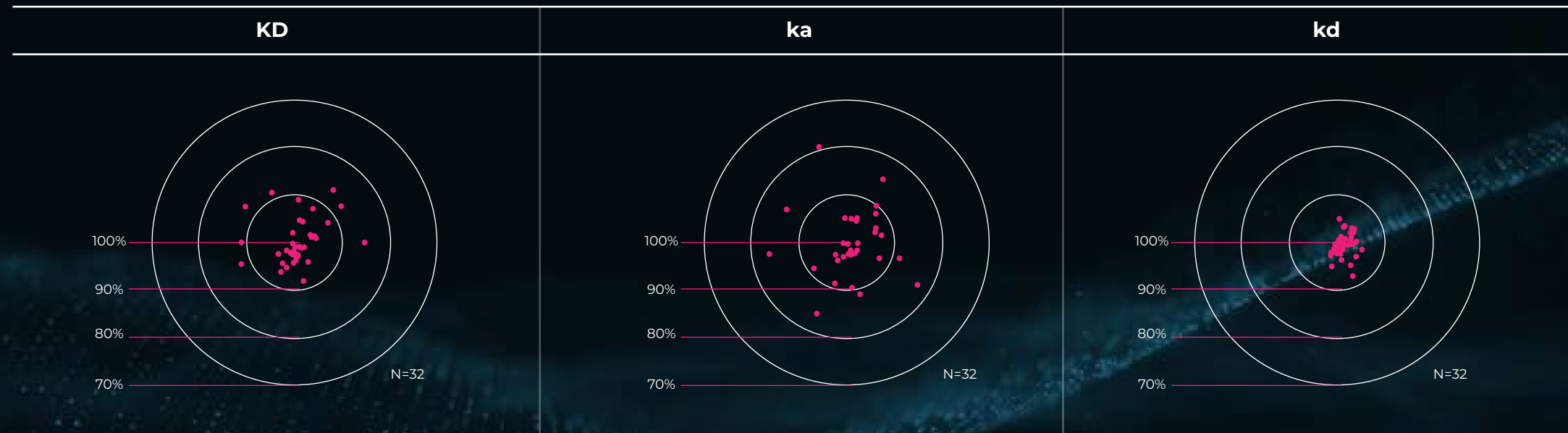
**Confirmation of
'negative' binding
(8v)**
*Up to 8 antibodies
against multiple
receptors*

**Multi-Species
FcRn Option
(2v3)**
*Up to 2 antibodies
against 3
receptors*

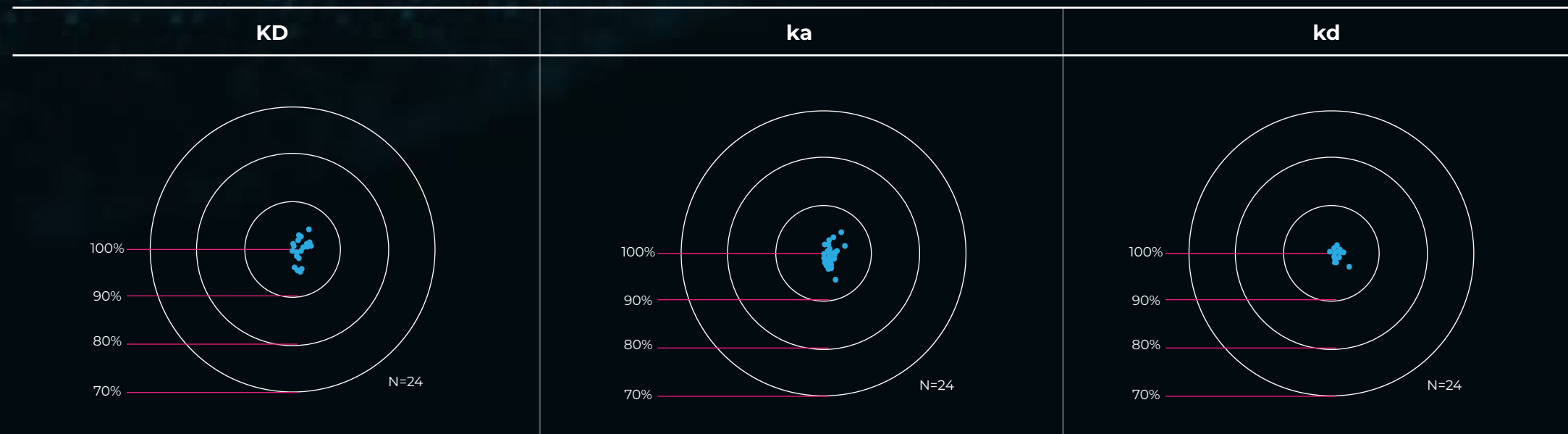


| 8v1 & 4v1 (Her2 Binding) Comparison

Antibody-Antigen - Multiple Ligand Design (High Throughput 8v1)



Antibody-Antigen - Multiple Ligand Design (High Performance 4v1)



| 8v1 & 4v1 (Her2 Binding) Comparison

Antibody-Antigen Multiple Ligand Design (8v1 High Throughput)

Reportable Value	Analysis Type	N	Accuracy	Precision
KD (M)	Kinetic (Langmuir 1 to 1)	32	87.6 - 114.9%	7 %CV
Ka	Kinetic (Langmuir 1 to 1)	32	84.0 - 120.8%	9 %CV
kd	Kinetic (Langmuir 1 to 1)	32	94.9 - 107.4%	3 %CV

Antibody-Antigen Multiple Ligand Design (8v1 High Performance)

Reportable Value	Analysis Type	N	Accuracy	Precision
KD (M)	Kinetic (Langmuir 1 to 1)	24	94.5 - 104.8%	3 %CV
Ka	Kinetic (Langmuir 1 to 1)	24	93.8 - 105.9%	3 %CV
kd	Kinetic (Langmuir 1 to 1)	24	95.2 - 102.2%	2 %CV



| High Throughput

Multiple Ligand Design (8v1)

Numbers of Ligands	Channels Used per Ligand	Independent Immobilisations /Captures per Ligand per Channel	Numbers of Different Analytes	Number of Analyte doses	Total potential data points
Multiples of 8	1	3	1	6	18

Multiple Analyte Design (1v8)

Numbers of Ligands	Channels Used per Ligand	Independent Immobilisations /Captures per Ligand per Channel	Numbers of Different Analytes	Number of Analyte doses	Total potential data points
1	8	3	Multiples of 8	6	18



| High Performance

Multiple Ligand Design (4v1)

Numbers of Ligands	Channels Used per Ligand	Independent Immobilisations /Captures per Ligand per Channel	Numbers of Different Analytes	Number of Analyte doses	Total potential data points
Up to 4	4	1	1	6	24

Block	1		2		3		4	
Analyte Preparation	1		2		3		4	
Channel	1	2	3	4	5	6	1	1
Series 1 Ligand Identity	A1	D1	A2	B2	D3	C3	B4	C4
Series 2 Ligand Identity	B1	C1	D2	C2	B3	A3	A4	D4



| Confirmation of 'Negative' Binding

Negative Fc γ Receptor Assessment (8v15)

Numbers of Ligands	Channels Used per Ligand	Independent Immobilisations /Captures per Ligand per Channel	Numbers of Different Analytes	Number of Analyte doses	Total potential data points
Up to 8	1	2	Up to 15	1	2



| Multi-Species FcRn Option

FcRn Multiple Ligand Design (2x3)

Numbers of Ligands	Channels Used per Ligand	Independent Immobilisations /Captures per Ligand per Channel	Numbers of Different Analytes	Number of Analyte doses	Total potential data points
Up to 2	1	3	3	6	18



Feasibility & Customisation Options



| FcY Receptor & FcRn: Feasibility

FcY Receptor & FcRn Feasibility

Numbers of Ligands (Antibodies)	Number of Capture Durations	Ligand (Antibodies) Concentrations
Up to 8	4	4

Feasible Options

Confirmation of capture methodology



| Customisation - Capture or Immobilisation



Ligand *with* Fc Domain

Ligand capture via Fc
Antibody Fragment



Ligand *without* Fc Domain

Ligand capture via
Biotin CAPture Kit

Ligand
Immobilisation



| Customisation of Ligand Capture

Capture Conditions

Up to 4 Ligands v 4 Analytes
4 Ligand contact durations x 4 Ligand Concentrations
Analyte non-specific binding

Analyte Dose Range

1 Ligand
Up to 4 Analytes
Up to 24 Doses



| Customisation of Covalent Immobilisation

Establishment of Immobilisation Conditions

Up to 4 Ligands v 4 pH Conditions v 4 Analytes
4 Ligand Contact durations x 4 Ligand Concentrations

Immobilisation Regeneration

4 Ligands v 1 Analyte
Up to 8 Regeneration Conditions
Analyte non-specific binding

Confirmation of Regeneration Conditions

4 Ligands v 1 Analyte
Up to 2 Regeneration Conditions
Evaluation of up to 25 Regeneration Cycles

Analyte Dose Range

1 Ligand Up to 4 Analytes
Up to 24 Doses





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