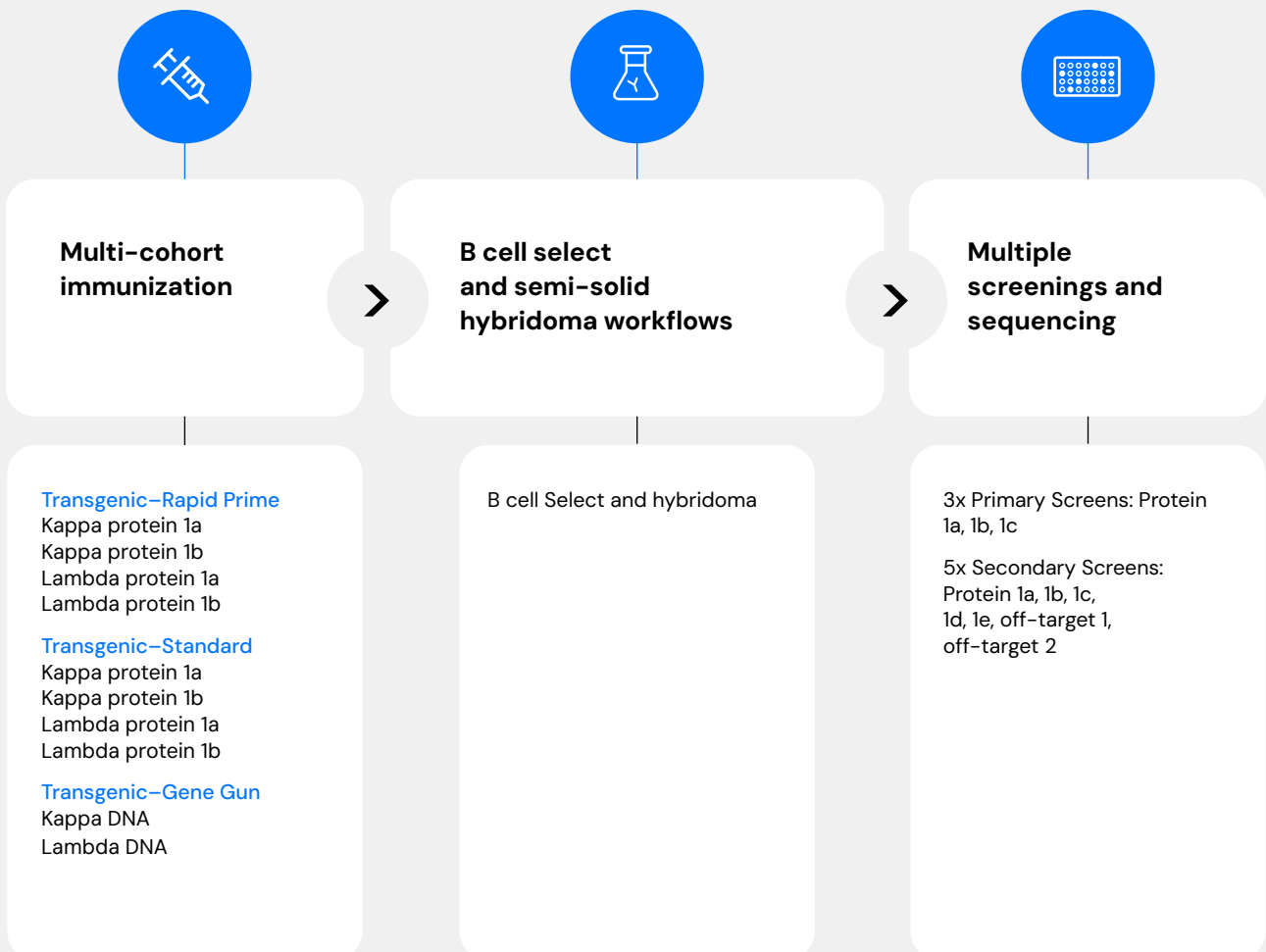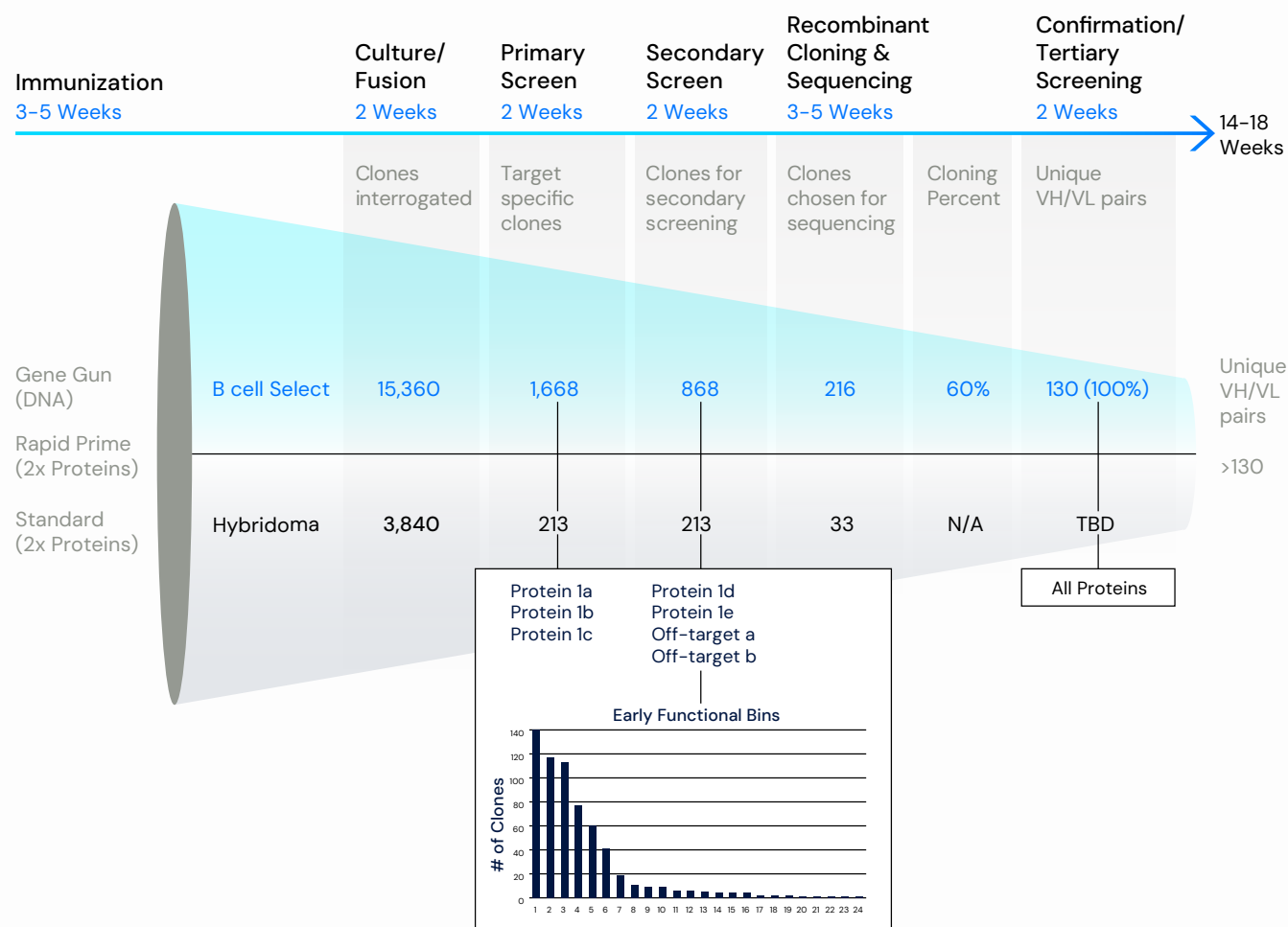MindWalk™

‹3kDa in Transgenics

The Challenge:

Generate a large panel of sequence-diverse, biologically relevant lead candidates that are specific to a small, processed protein (‹3 kDa) with a difficult secondary structure using a transgenic animal model.

The Solution:

Using a transgenic animal model, MindWalk leveraged three immunization methods, applied in multiple animal cohorts, to screen B cells with our B cell Select® technology and hybridoma workflows.

Multi-cohort immunization	B cell select and semi-solid hybridoma workflows	Multiple screenings and sequencing
Transgenic–Rapid Prime Kappa protein 1a Kappa protein 1b Lambda protein 1a Lambda protein 1b **Transgenic–Standard** Kappa protein 1a Kappa protein 1b Lambda protein 1a Lambda protein 1b **Transgenic–Gene Gun** Kappa DNA Lambda DNA	B cell Select and hybridoma	3x Primary Screens: Protein 1a, 1b, 1c 5x Secondary Screens: Protein 1a, 1b, 1c, 1d, 1e, off-target 1, off-target 2

Program Summary

	Immunization 3–5 Weeks	Culture/ Fusion 2 Weeks	Primary Screen 2 Weeks	Secondary Screen 2 Weeks	Recombinant Cloning & Sequencing 3–5 Weeks	Confirmation/ Tertiary Screening 2 Weeks	14–18 Weeks
		Clones interrogated	Target specific clones	Clones for secondary screening	Clones chosen for sequencing	Cloning Percent	Unique VH/VL pairs
Gene Gun (DNA)	B cell Select	15,360	1,668	868	216	60%	130 (100%)	Unique VH/VL pairs
Rapid Prime (2x Proteins)								>130
Standard (2x Proteins)	Hybridoma	3,840	213	213	33	N/A	TBD

Protein 1a
Protein 1b
Protein 1c

Protein 1d
Protein 1e
Off-target a
Off-target b

All Proteins

Early Functional Bins

# of Clones

Conclusion

A large panel of sequence-diverse, functionally relevant lead candidates were obtained against a small, processed protein with a biologically challenging secondary structure. The comprehensive work plan included three immunization protocols applied in multiple animal cohorts of different strains, followed by application of B cell Select and hybridoma workflows designed for early identification of lead candidates.

MindWalk™

FPO

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