seer
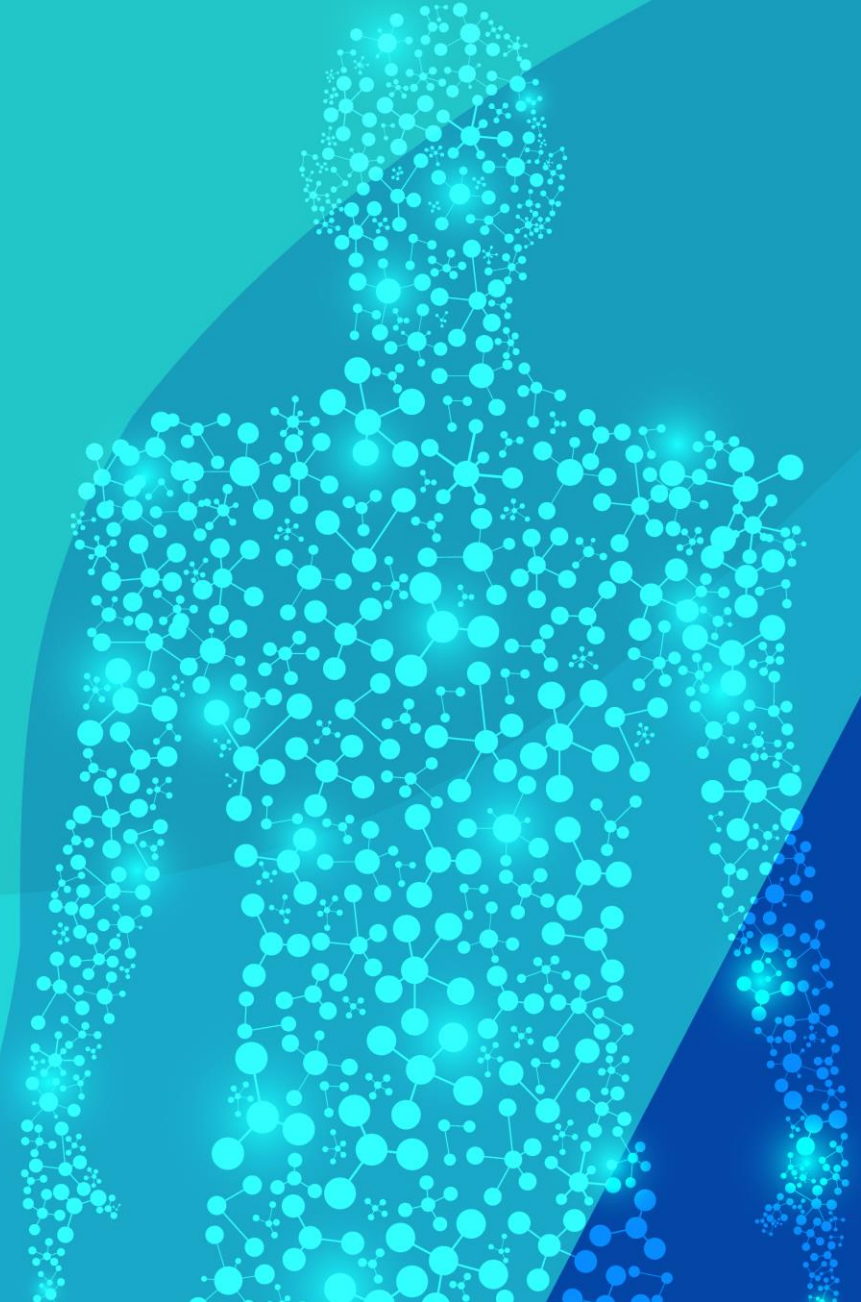
Seer

40th Annual J.P. Morgan Healthcare Conference

Omid Farokhzad, M.D.

CEO, Seer

January 10, 2022

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Certain statements in this presentation and the accompanying oral commentary are forward-looking statements within the meaning of the federal securities laws. These statements relate to future events or Seer, Inc. (the "Company")'s future results and involve known and unknown risks, uncertainties and other factors that may cause the actual results, levels of activity, performance or achievements of the Company or its industry to be materially different from those expressed or implied by any forward-looking statements. In some cases, forward-looking statements can be identified by terminology such as "may," "will," "could," "would," "should," "to," "target," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "potential" or other comparable terminology.

All statements other than statements of historical fact could be deemed forward-looking. These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including, among other things: any expectations regarding the Company's projections of market opportunities; statements regarding the Company's business strategy, operations, results of operations, financial needs, and financial condition; statements regarding the Company's long-term expectations; statements that may suggest trends for the Company's business or industry, including expectations that may affect the unmet need and the size of the proteomics market and adjacent markets; statements about the Company's broad commercial release, the center of excellence program and consortium arrangement, statements about the Company's ability to successfully commercialize the Proteograph™ Product Suite, demand for the Proteograph Product Suite; the launch of any new or additional products, any expectations or statements regarding customer acquisition in domestic or global markets, including but not limited to Europe and Asia; statements regarding customer adoption of new technologies domestically and globally; the Company's ability to expand life sciences markets through the use of its technology; the discovery of new protein variants and novel biomarkers leading to therapeutic breakthroughs, the scope of protection the Company is able to successfully establish and maintain for intellectual property rights, including its Proteograph Product Suite; projections, assumptions, and estimates of the Company's future performance and the future performance of the markets in which it operates; the Company's expectations regarding its gross margins, and operating income and expenses; any statements of the plans, strategies, and objectives of management for future operations; any statements of expectation or belief regarding future events, opportunities to drive future growth, and potential markets or market size, or technology developments.

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In light of the foregoing, investors are urged not to rely on any forward-looking statement in reaching any conclusion or making any investment decision about any securities of the Company.

We imagine and pioneer new ways to

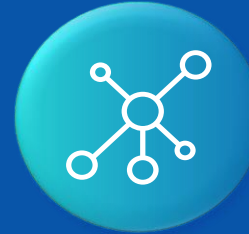# decode the secrets of the proteome

to improve human health
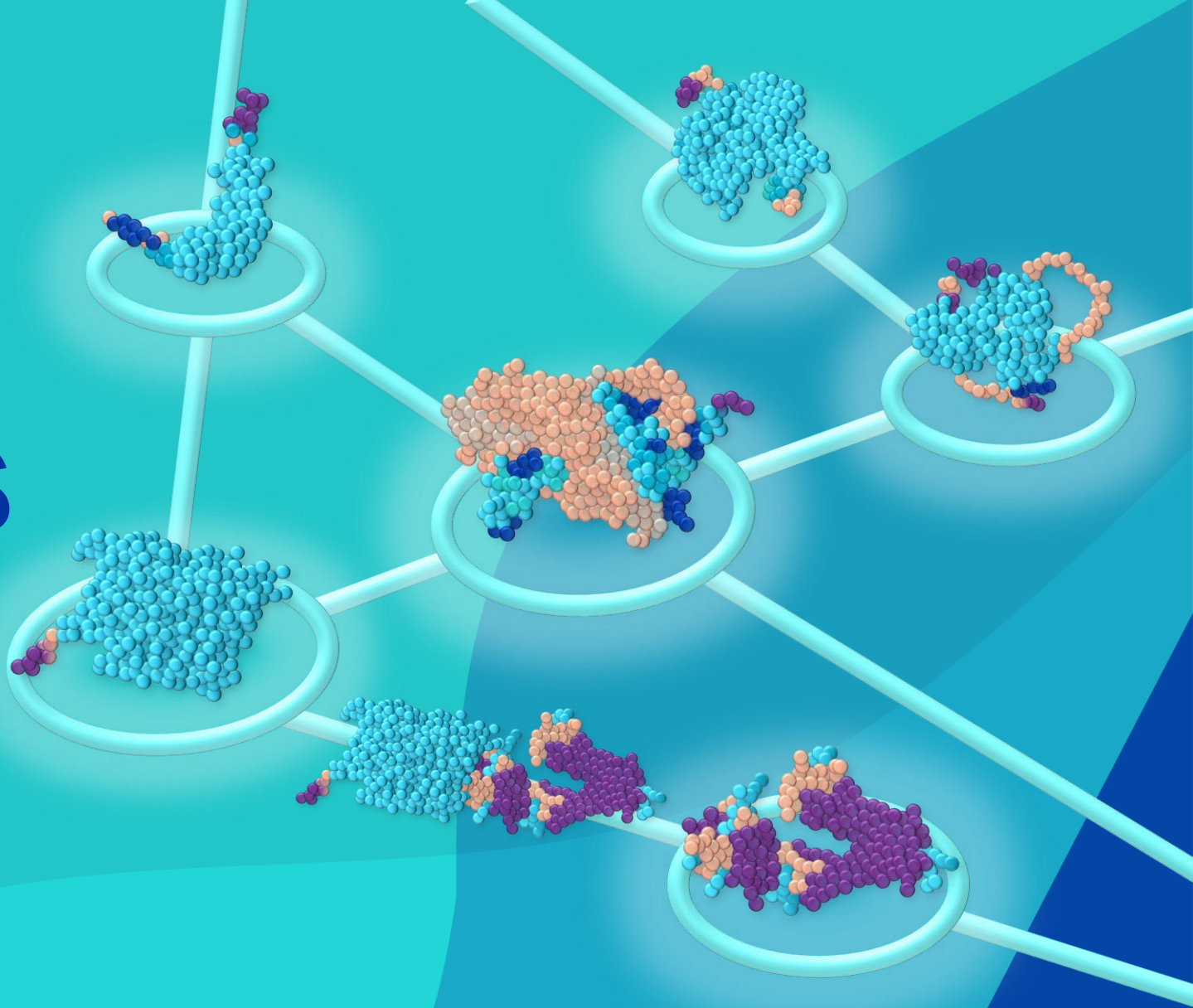
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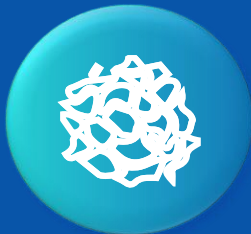# Seer is leading the proteomics revolution

Leading customers and collaborators

Lighthouse customers

Well designed customer experience

Creating new markets

Industry leading partners

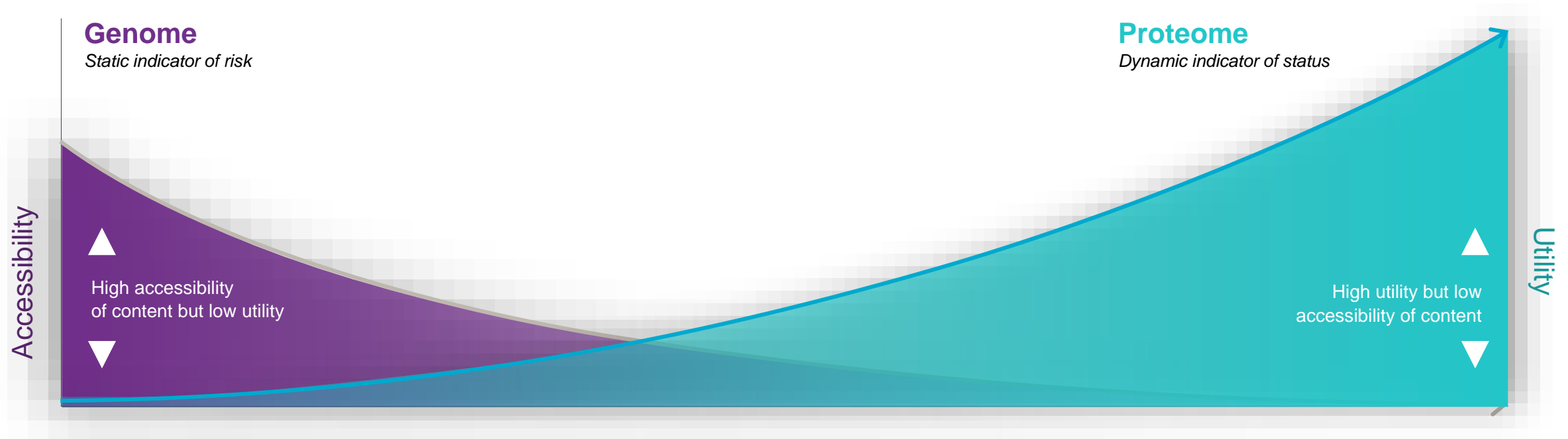Geographically positioned

Best in class technology

Uniquely enabling technology

Data demonstrating impact

Leading team with multi-omics expertise

Culture of innovation

Industry-leading talent

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Full characterization of the proteome is essential

Genome
Static indicator of risk

Proteome
Dynamic indicator of status

Accessibility

Utility

▲

High accessibility
of content but low utility

▼

▲

High utility but low
accessibility of content

▼

10M+ human exomes and
1M+ genomes and counting
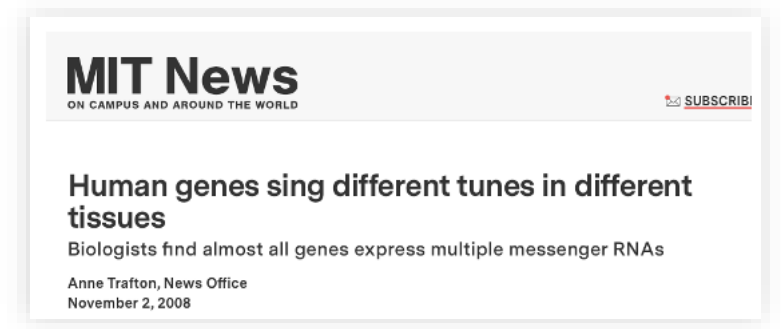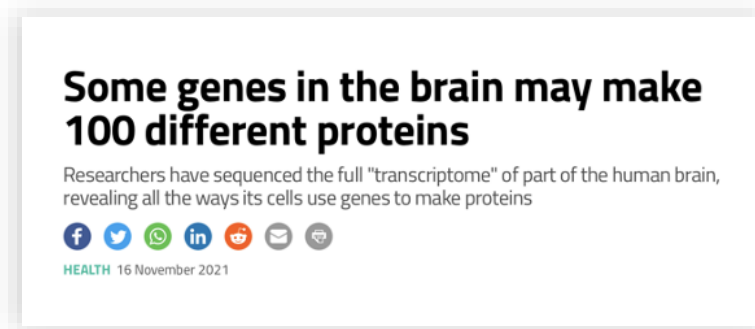
~1B genetic
variants catalogued

< 0.2% of genetic variants
fully characterized

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Biology is a dynamic and complex matrix of interactions

Cell
Volume 164, Issue 4, 11 February 2016, Pages 805-817

CellPress

Resource

Widespread Expansion of Protein Interaction Capabilities by Alternative Splicing

Xinping Yang [1,2,3,4,17], Jasmin Coulombe-Huntington [5,17,19], Shuli Kang [6,17,20], Gloria M. Sheynkman [1,2,3,17], Tong Hao [1,2,3,17], Aaron Richardson [1,2,3], Song Sun [7,8,9,10], Fan Yang [7,8,9], Yun A. Shen [1,2,3], Ryan R. Murray [2,3,21], Kerstin Spirohn [1,2,3], Bridget E. Begg [1,2,3,22], Miquel Duran-Frigola [11], Andrew MacWilliams [2,3,23],

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Some genes in the brain may make 100 different proteins

Researchers have sequenced the full "transcriptome" of part of the human brain, revealing all the ways its cells use genes to make proteins

HEALTH 16 November 2021

MIT News
ON CAMPUS AND AROUND THE WORLD

SUBSCRIBE

Human genes sing different tunes in different tissues

Biologists find almost all genes express multiple messenger RNAs

Anne Trafton, News Office
November 2, 2008

Phenotype

~20,000	>200,000	>1,000,000	>200,000
Genes	**Transcripts**	**Proteoforms**	**Metabolites**
Genome	Transcriptome	Proteome	Metabolome

STATIC → DYNAMIC

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Opening a **new frontier** with unbiased, deep, rapid proteomics at scale

Genomics

~$21B

Proteomics

~$32B
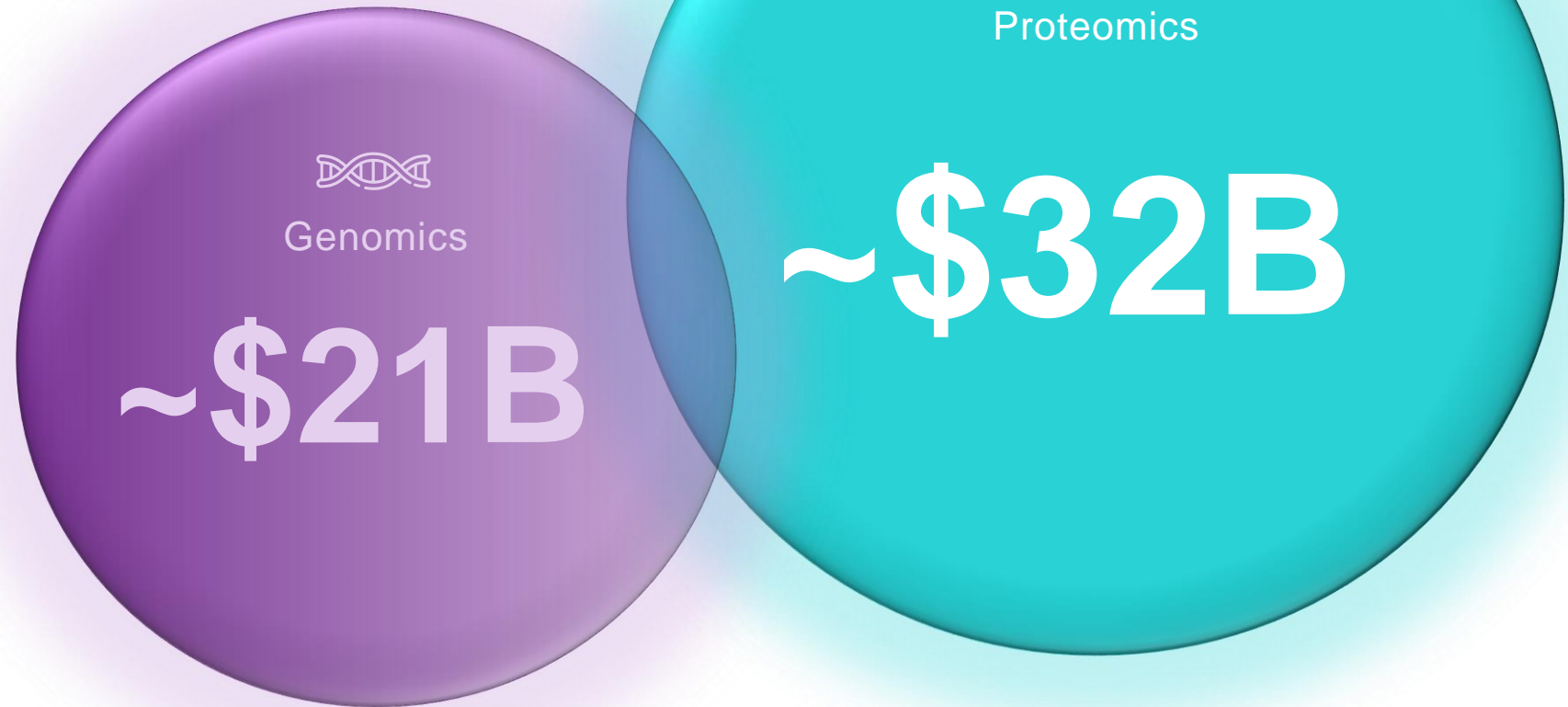
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Seer enables **unbiased, deep** and **rapid** proteomic analysis **at scale**

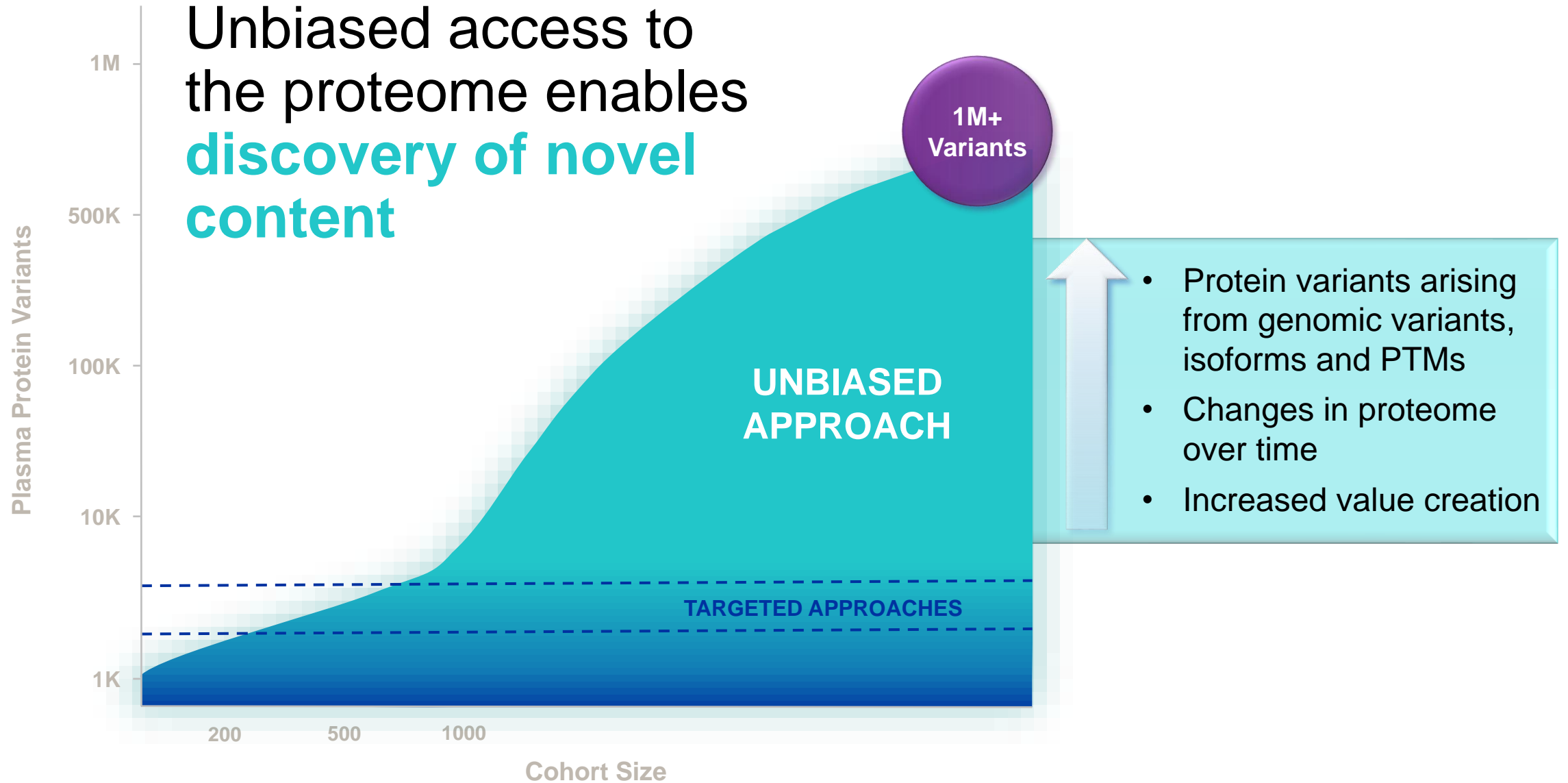Conventional Proteomics Lab
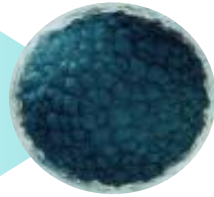
Lab on a nanoparticle

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Unbiased

Deep

Rapid

Large-scale

A New Gateway to the Proteome

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Unbiased access to the proteome enables **discovery of novel content**

1M+ Variants

UNBIASED APPROACH

TARGETED APPROACHES

Plasma Protein Variants

1M
500K
100K
10K
1K

Cohort Size

200   500   1000

- Protein variants arising from genomic variants, isoforms and PTMs
- Changes in proteome over time
- Increased value creation

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Unbiased approaches identify peptide level insights

Targeted Approaches
Miss the Vast Majority of Protein Altering Variants

Unbiased Approaches
Capture Common and Rare Variants
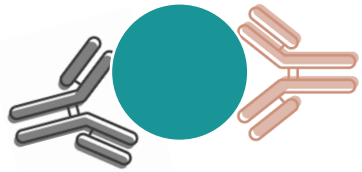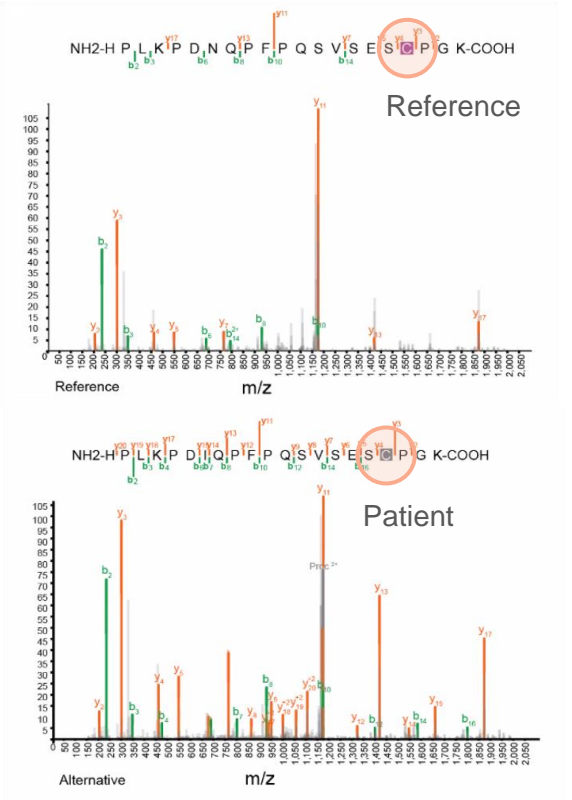
Average human protein:
472aa long

Average epitope:
5-8 aa long

Pietzner, et all Nature Communications, Nov 2021

"**Protein–phenotype colocalisation** … **goes beyond missing target specificity** and can be explained by alternative proteoforms induced by genetic variants altering the amino acid sequence of the protein and the effects of alternative splicing"
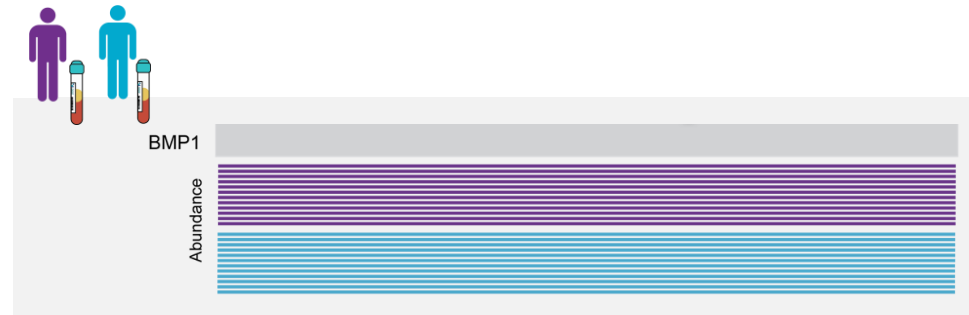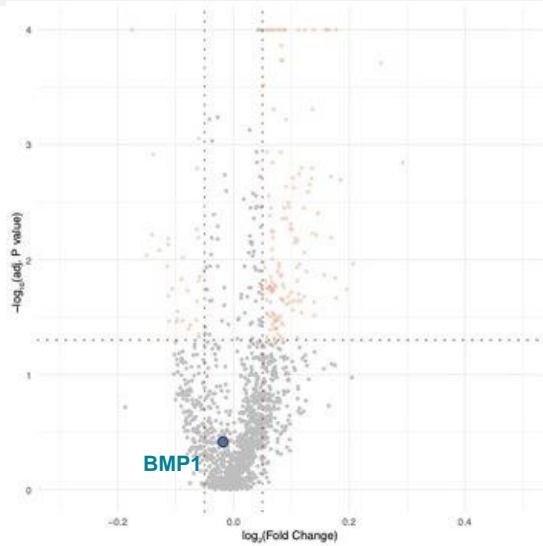
Pietzner, et al Nature Communications

Unbiased approaches **identify peptide level insights**
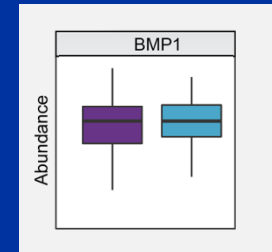
© Seer 2022
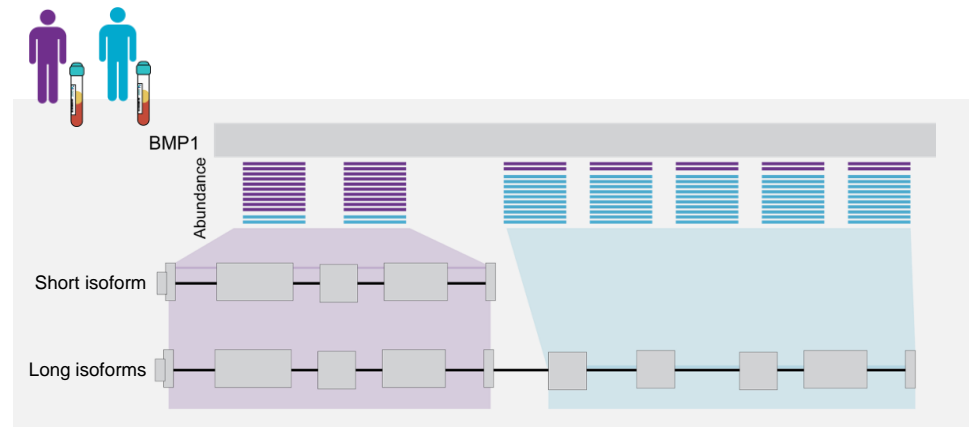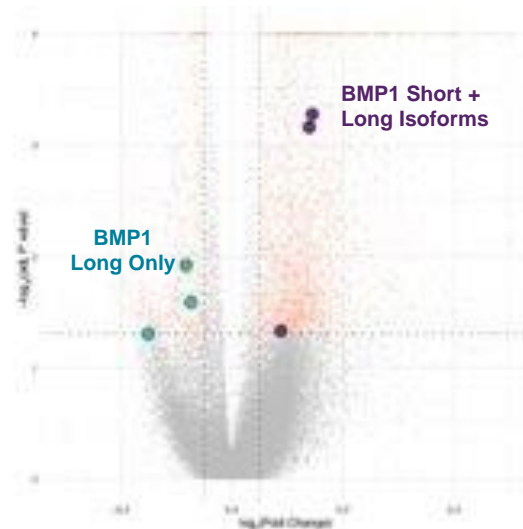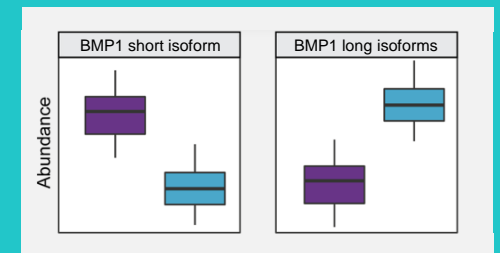
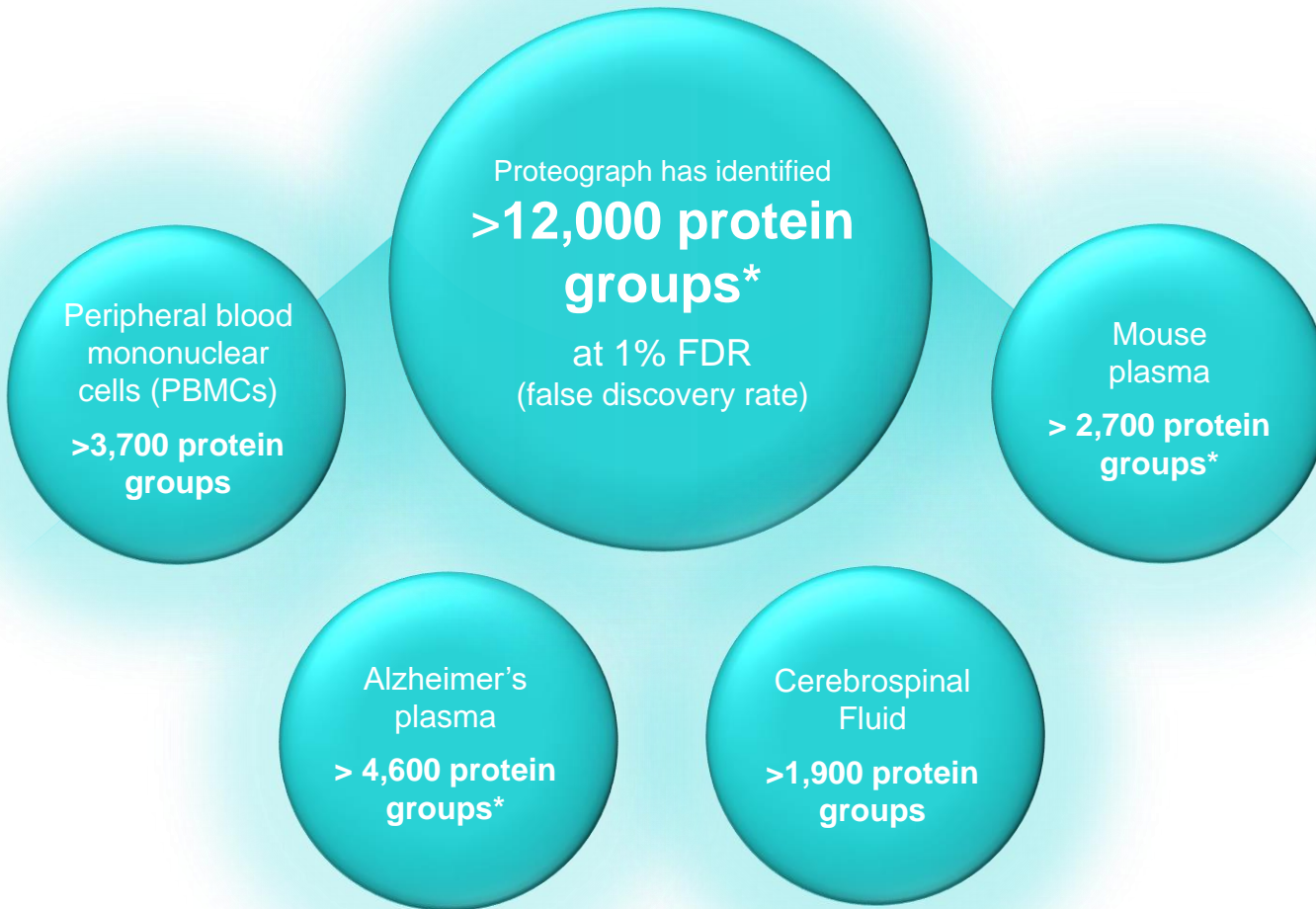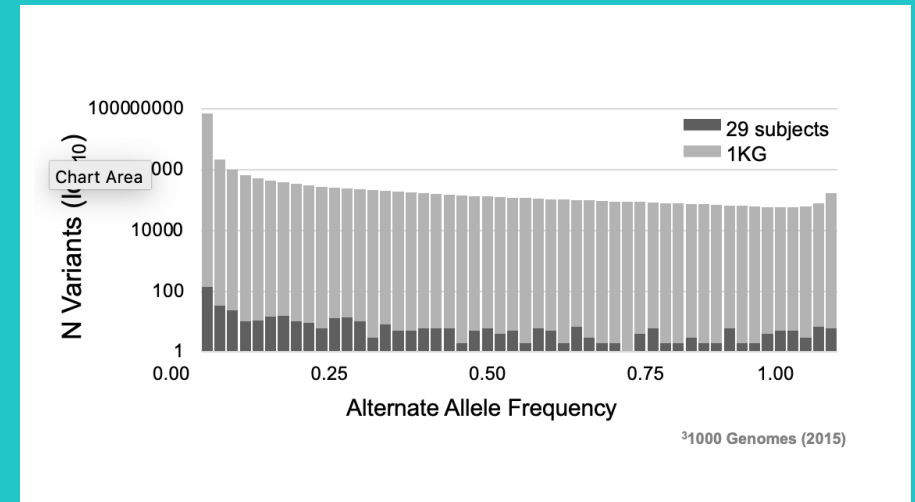# Unbiased approaches **identify what is present** in a sample

The Proteograph identifies what is present in the sample at a controlled FDR

Proteograph has identified
>12,000 protein groups*
at 1% FDR
(false discovery rate)

Peripheral blood mononuclear cells (PBMCs)
>3,700 protein groups

Mouse plasma
> 2,700 protein groups*

Alzheimer's plasma
> 4,600 protein groups*

Cerebrospinal Fluid
>1,900 protein groups

The Proteograph captures protein variants…

[3]1000 Genomes (2015)

…including

Isoforms

PTMs

Alleles (at any frequency in the population)

Small open reading frame (smORFs)

* across samples

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Strong finish to 2021

Completed first two phases of commercial release

25+ unique abstracts

Established industry-leading partnerships

Systems sold in US, Korea, China, EMEA

Doubled organization

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Announcing Broad Commercial Release of the **Proteograph Product Suite**

Uniquely enabling technology for deep, unbiased proteomics

Streamlined workflow and analysis to enable large-scale studies

Simplified solution accessible to nearly any lab

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Positioned to **lead the proteomics revolution**

Building an ecosystem around unbiased, deep proteomics

1 Establishing Seer as premier provider in deep proteomics

2 Enabling our customers to derive unique applications and insights

3 Empowering leading institutions to perform studies at scale

**4** Making deep unbiased proteomics accessible

Technology uniquely positioned to enable deep, unbiased proteomics

Seminal publications demonstrate the power of Seer's proprietary engineered nanoparticles
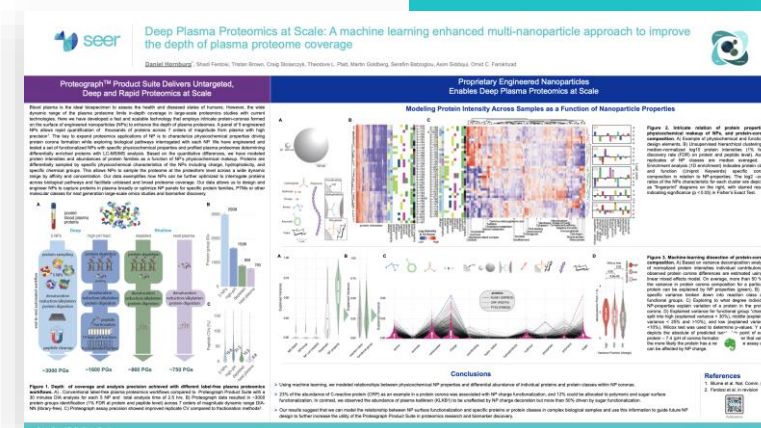
Deep and precise coverage of the plasma proteome
Ferdosi, et al, in press, PNAS

Optimization of protein coronas to increase proteome depth
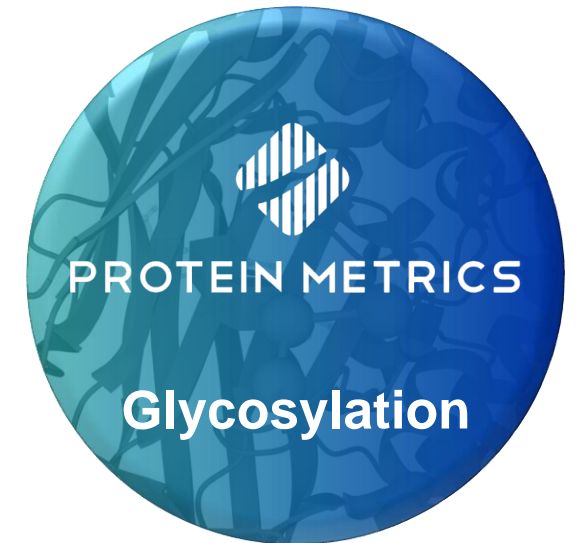*Manuscript in pre-print**
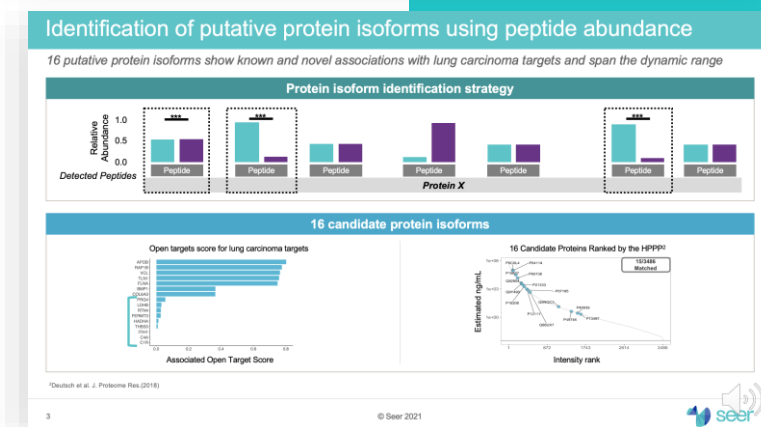
Proteoform detection with peptide-centric analysis
Manuscript in pre-print*

Hornburg D, et al., 2022. Enhanced competitive protein exchange at the nano-bio interface enables ultra-deep coverage of the human plasma proteome. bioRxiv.

Donovan MKR, et al., 2022. Peptide-centric analyses of human plasma enable increased resolution of biological insights into non-small cell lung cancer relative to protein-centric analysis. bioRxiv.
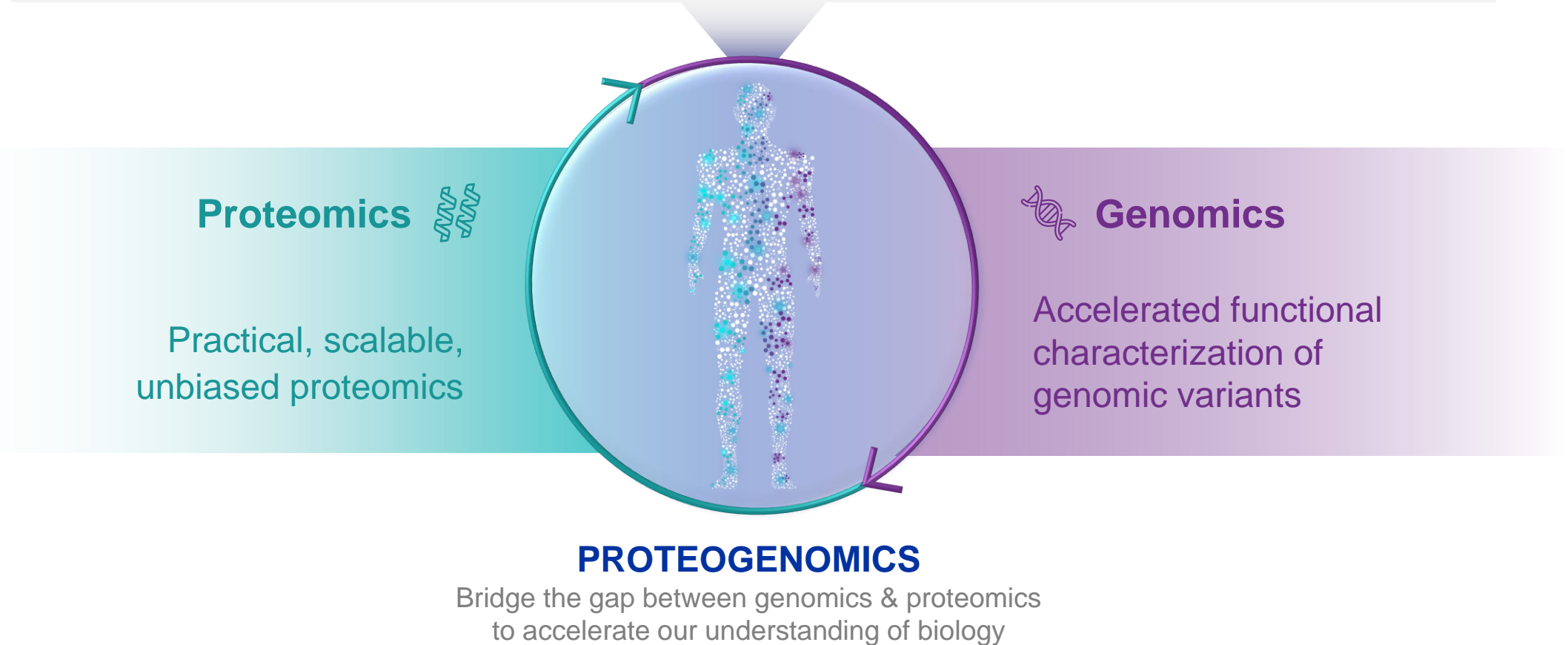
Enabling new applications & insights
in customers' hands

Prostate Cancer

Myocardial Infarction

TMT

Glycosylation

© Seer 2022

Posters are posted on www.seer.bio/library

Enabling proteogenomics by impedance matching genomics

Unmet need to functionally characterize genomic variation and deepen our understanding of biology

Oncology   Diagnostics   Complex Disease   Infectious Disease   Rare Disease   Therapeutics   Reproductive Health

Proteomics

Practical, scalable,
unbiased proteomics

Genomics

Accelerated functional
characterization of
genomic variants

PROTEOGENOMICS

Bridge the gap between genomics & proteomics
to accelerate our understanding of biology

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Empowering unprecedented studies for unbiased plasma proteomics

Prior to Seer, the largest published deep, unbiased plasma proteomics studies were in the 10s of samples

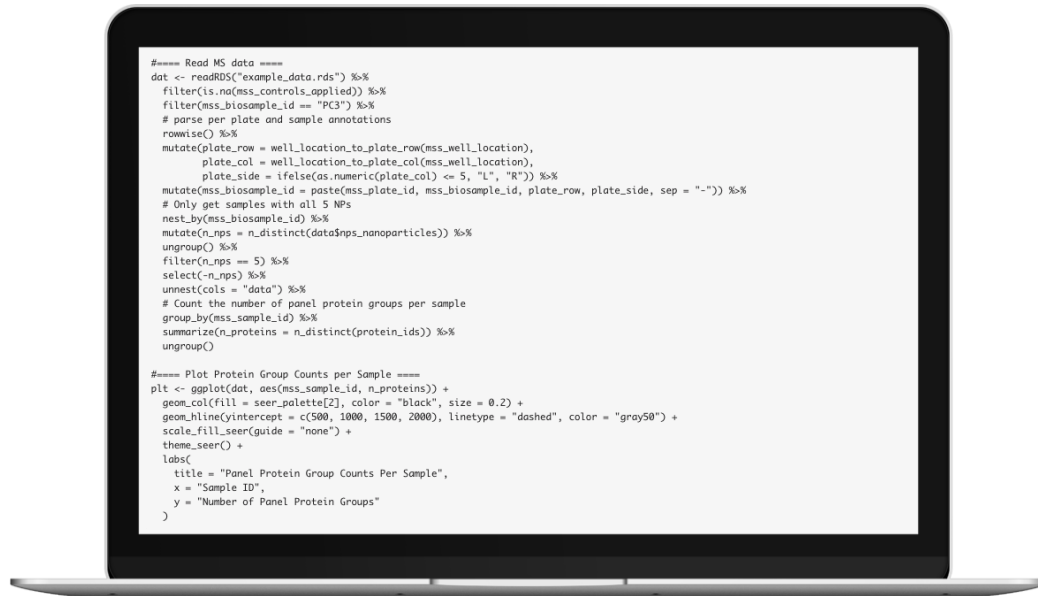| Prostate Cancer	Disease Multi-omics	Aging
1,000 samples	**2,000 samples**	**1,500 samples**

© Seer 2022

Making deep, unbiased proteomics **analysis more accessible**

Making it easier to access deep, unbiased, rapid proteomics at scale with Proteograph Analysis Suite
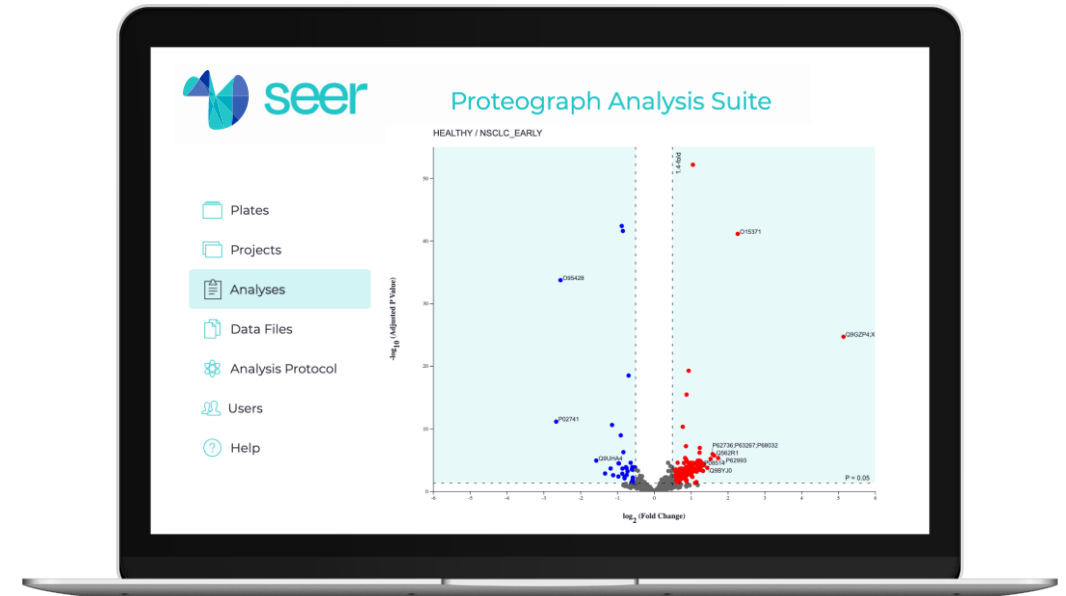
Past

Today

Recapitulates Nature Communications results

Advanced Data Analysis

Multiple experts

Weeks+

1 user

9 clicks, <1 minute to visualization

© Seer 2022

1 2 3 **4**

Making deep, unbiased proteomics **geographically more accessible**

Building access to deep, unbiased, rapid proteomics with key partners and Centers of Excellence program

Key partnerships to expand access across geographies and customer groups

Increase access in **Europe** with one of the world's premier service providers

evotec

Accelerate and simplify adoption especially among **academic/pharma** customers

biodesix® **SBP** Medical Discovery Institute SANFORD BURNHAM PREBYS **DISCOVERY** LIFE SCIENCES

Provide access to research and healthcare customers in **Asia Pacific**

soulbrain 应脉医疗 Enlight Medical

1 2 3 4

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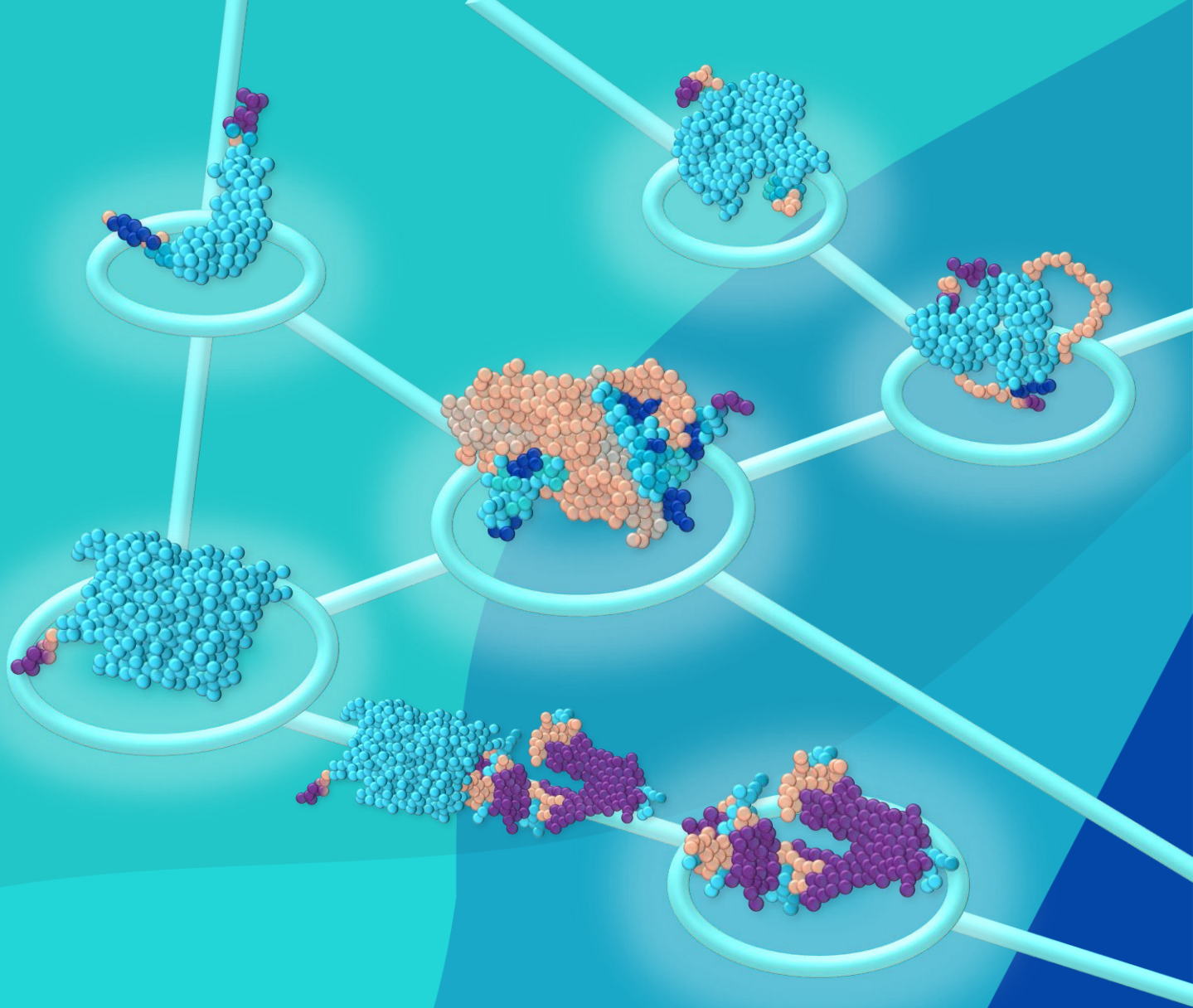# Making deep, unbiased proteomics **more accessible to more labs**

Announcing the Proteogenomics Consortium to expand the availability of proteomics to genomics customers

BRINGING PROTEOMICS TO GENOMICS CUSTOMERS

Looking ahead…

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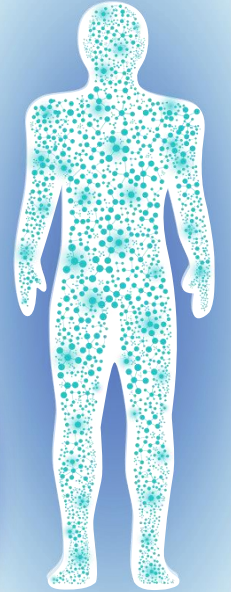# Our vision is to understand biology in a **dynamic, broad way**

Protein Variants   Proteogenomics   PTMs
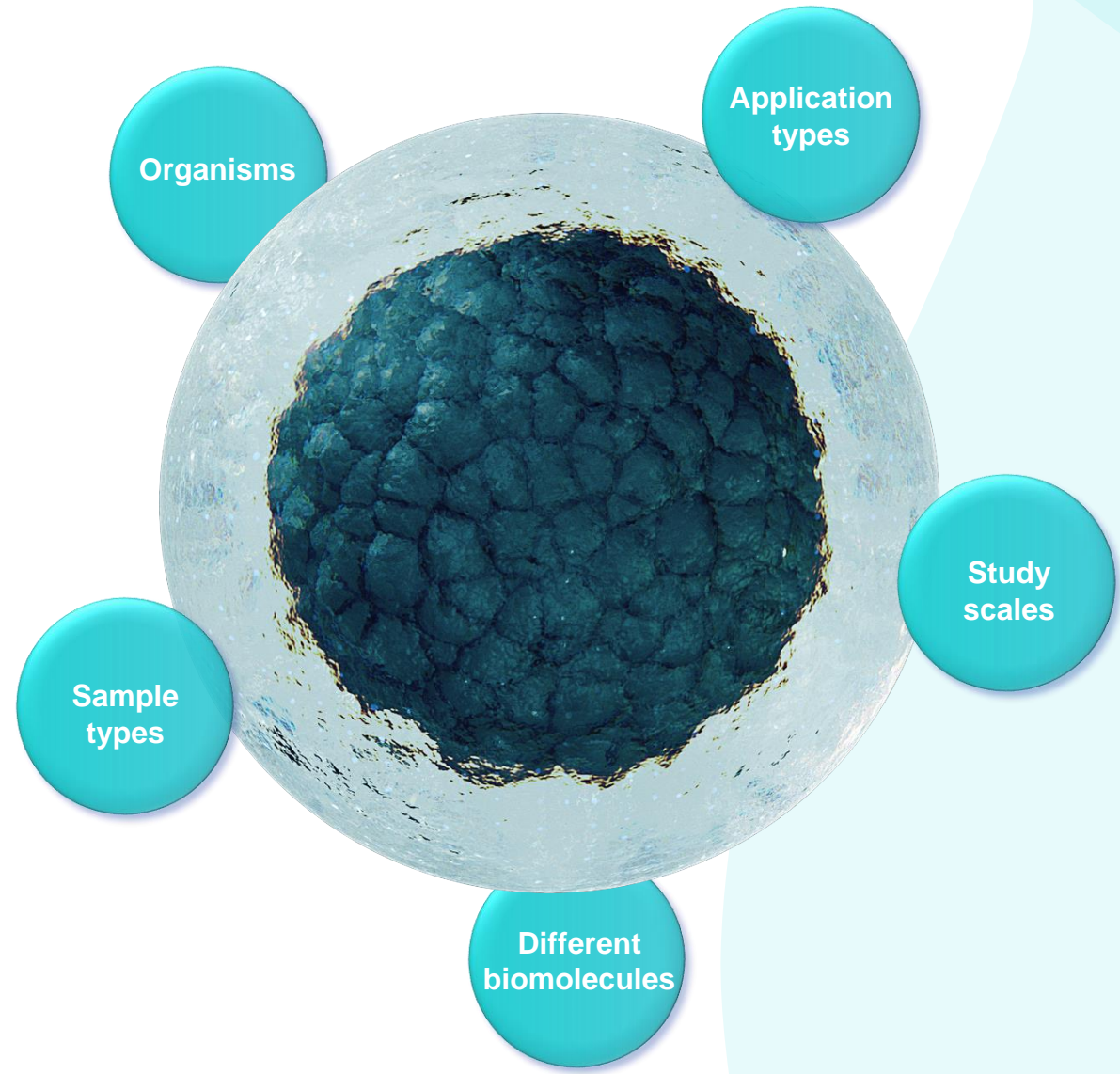
Deep Proteomics

Other biomolecules

+

Deep Multi-omics

COMPREHENSIVE MOLECULAR PHENOTYPE

FROM A PINHOLE TO A PANORAMA

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Unconstrained interrogation of biology
enabled by proprietary nanoparticles

Organisms

Application types

Study scales

Sample types

Different biomolecules

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Continued execution in 2022

Leading customers and collaborators

✓ Continue to grow installed base

✓ Facilitate the execution of large-scale studies using the Proteograph Product Suite

Best in class technology

✓ Further product roadmap to open up a new gateway to biology

✓ Pave the way for future clinical validation of our technology

✓ Exemplify how deep unbiased proteomics enables discovery of novel content

Creating new markets

✓ Partner in novel ways to standardize deep proteomics workflows and insights

✓ Broadly enable proteogenomics

Leading team with multi-omics expertise

✓ Continue to build a team of world-class talent

✓ Expand global infrastructure and team to support expanding customer base

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Q & A

Omid Farokhzad, M.D.