QuantumSi

Quantum-Si

Investor Update

March 8 2022

Disclaimer

This presentation includes "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995. The actual results of the Company may differ from its expectations, estimates, and projections and, consequently, you should not rely on these forward-looking statements as predictions of future events. Words such as "expect," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "should," "believes," "predicts," "potential," "continue," and similar expressions (or the negative versions of such words or expressions) are intended to identify such forward-looking statements. These forward-looking statements include, without limitation, the Company's expectations with respect to future performance and development and commercialization of products and services. These forward-looking statements involve significant risks and uncertainties that could cause the actual results to differ materially from those discussed in the forward-looking statements. Most of these factors are outside the Company's control and are difficult to predict. Factors that may cause such differences include, but are not limited to: the impact of COVID-19 on the Company's business; the inability to maintain the listing of the Company's Class A common stock on The Nasdaq Stock Market; the ability to recognize the anticipated benefits of the recently completed business combination, which may be affected by, among other things, competition and the ability of the Company to grow and manage growth profitably and retain its key employees; our ongoing leadership transition; changes in applicable laws or regulations; the ability of the Company to raise financing in the future; the success, cost and timing of the Company's product development and commercialization activities; the potential attributes and benefits of the Company's products and services; the Company's ability to obtain and maintain regulatory approval for its products, and any related restrictions and limitations of any approved product; the Company's ability to identify, in-license or acquire additional technology; the Company's ability to maintain its existing lease, license, manufacture and supply agreements; the Company's ability to compete with other companies currently marketing or engaged in the development or commercialization of products and services that the Company is developing; the size and growth potential of the markets for the Company's future products and services, and its ability to serve those markets, either alone or in partnership with others; the pricing of the Company's products and services following anticipated commercial launch; the Company's estimates regarding future expenses, future revenue, capital requirements and needs for additional financing; the Company's financial performance; and other risks and uncertainties discussed in the “Risk Factors” section of the Company’s periodic reports filed with the U.S. Securities and Exchange Commission (SEC), and risks described in other filings the Company may make with the SEC in the future. The Company cautions that the foregoing list of factors is not exclusive. The Company cautions readers not to place undue reliance upon any forward-looking statements, which speak only as of the date made. The Company does not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions, or circumstances on which any such statement is based.

“I start each company to improve the life of somebody I love.”

Dr. Jonathan M. Rothberg
Founder & Chairman
Interim CEO
Quantum-Si

We build ecosystems to

Digitize Medicine

Apply Deep Learning Enabled AI

Democratize Healthcare

QuantumSi

454 SEQUENCING | RainDance Technologies | ion torrent | Butterfly Network | HYPERFINE | Liminal Sciences | TESSERACT | AI Therapeutics | Detect | PROTEIN EVOLUTION

We harness the power of semiconductor technology for

Simplicity Speed Scale

90%

of FDA-approved drugs target a protein

Most diseases are linked to dysfunctional proteins, as humans share 99.9% of DNA sequence.

85% of the human proteome is currently undrugged[2], potential for game changing drug development.

Protein modifications are real-time indicators of health and disease, making them ideal markers for disease, drug response and health.

Source(s):
1. The Human Proteome Tissue Atlas - Druggable Proteome, 2015, The Human Protein Atlas Project
2. A Quest to Drug the Undruggable, June 2018, Chemical & Engineering News

150,000

research papers found

thousands of protein biomarkers

yet less than

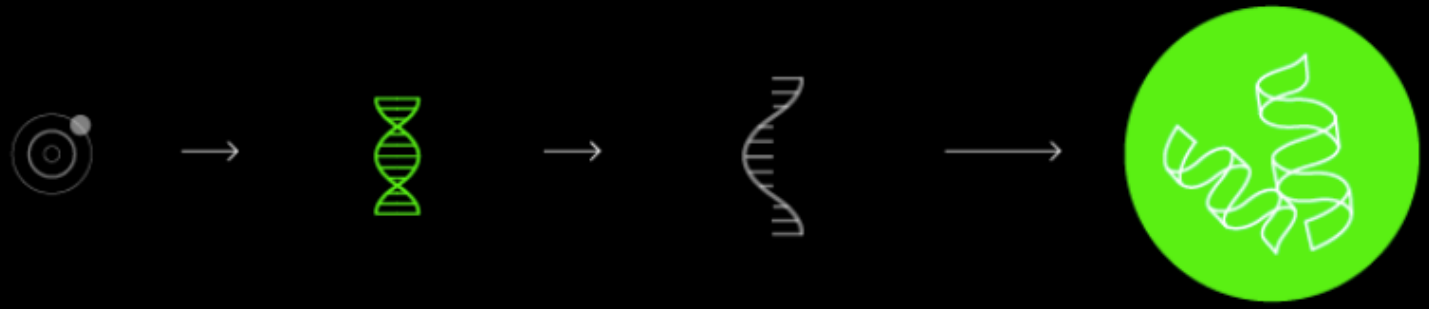
100

are routinely used in clinic[1]

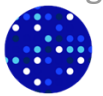
Source:
1.https://www.nature.com/articles/469156a

Current tools limit the use of protein biomarkers. Routine tests for Serum & Cerebrospinal Fluid (CSF) are constrained by number of analytes they can look at, sensitivity, and specificity.

We Understand Digital Technologies Transform Markets



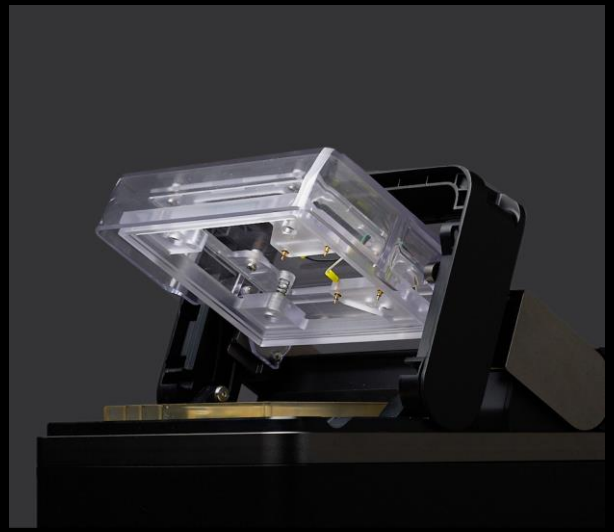
1 cell → 20k genes → 200k transcripts → 1M+ proteoforms

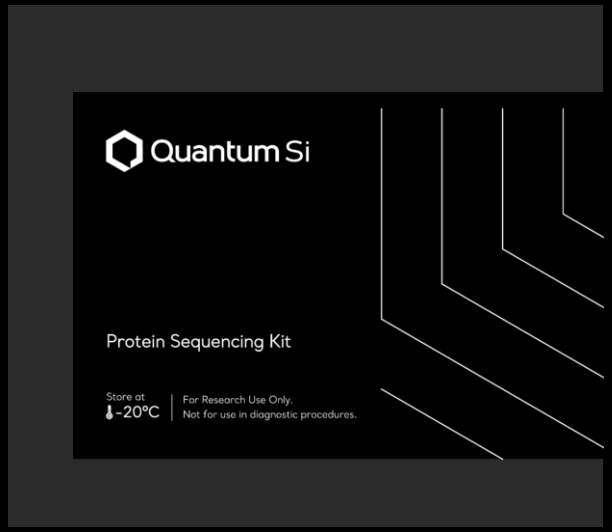
Microarray	DNA Sequencing	Affinity Arrays	Protein Sequencing
Analog	Digital	Analog	Digital
	GAGTT TTATC GCTTC CATGA		AGSLQ PLALE GSLQK RGIVE
	454 SEQUENCING ion torrent		QuantumSi

Analog vs Digital Approaches to Proteomics

	Analog Affinity-based Approaches			Digital Sequencing-based Approaches		
	Identify known proteins			Decode Novel Sequences		
	SomaLogic	Olink	Nautilus	Quantum-Si	Encodia	Erisyon
Detection Method	Aptamers	Antibodies	Aptamers / Antibodies	Direct Real-Time	N-terminal binding + Edman degradation with NGS readout	Side chain labeling + Edman degradation with scanning
Instrument Costs	$$ - $$$ (NGS Optional)	$ - $$$ (NGS Optional)	$$$	$	$$ - $$$ (NGS Required)	$$
Run Costs	$$ - $$$ (NGS Optional)	$ - $$$ (NGS Optional)	$$ - $$$	$	$$ - $$$ (NGS Required)	$$
AA Sequencing	NO	NO	NO	YES	LIMITED	LIMITED
Read Length Scaling	N/A	N/A	N/A	HIGH	LOW	LOW
PTM Detection	? (Affinity Reagent)	? (Affinity Reagent)	? (Affinity Reagent)	SCALABLE	?	?
Notes	*Can't differentiate between proteoforms unless they create a specific affinity reagent			Kinetics for amino acids & PTMs	NGS erases quantitative information	Harsh acidic environment limits utility

Q-Si End-to-End Proteomics Solution





Sample Prep

CARBON: $20,000

Cartridge based sample preparation for Protein or DNA

Sequencing & Cloud Analysis

PLATINUM: $70,000

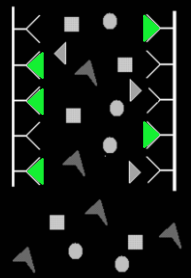
Real Time, Massively Parallel, Single Molecule

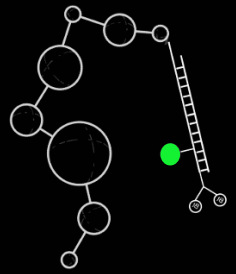
Kitted Reagents & Chips

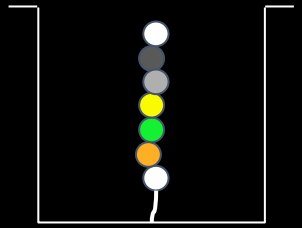
CONSUMABLES: $1,000/Each

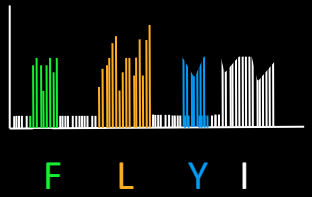
Library Prep & Protein Sequencing

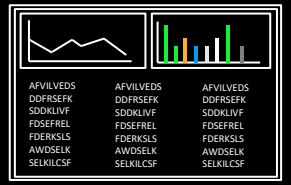
Workflow for Q-Si Next-Gen Protein Sequencing™











Enrichment → **Library Prep** → **Loading** → **Sequencing** → **Results**

Enrich proteins of interest

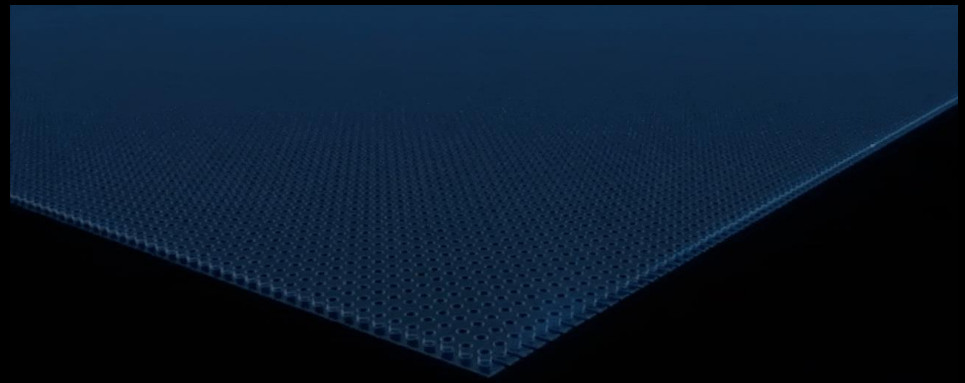
Digest and add Linker for bar-coding and loading (multiple samples or single cell proteomics)

Immobilize peptides in wells (2 Million wells per chip)

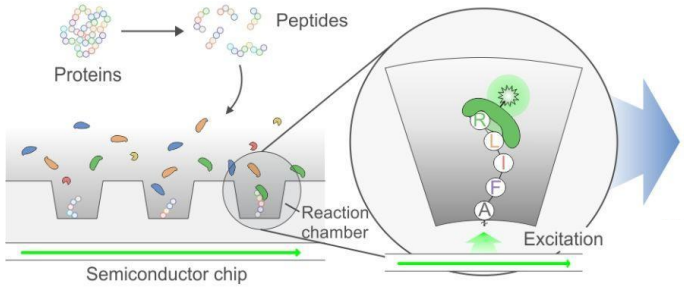
Sequence by recognizing the amino acid at the end, removing it, and recognizing the next one

Analyze sequence to discover new proteins, decode amino acid sequence & post-translational modifications

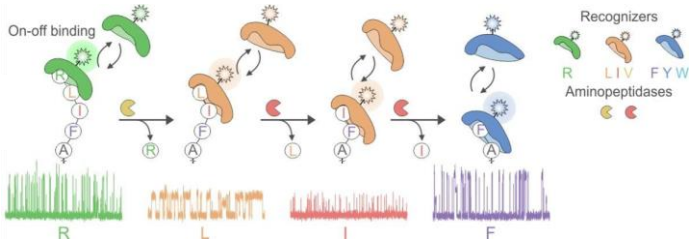
World's First Massively Parallel Next-Gen Protein Sequencing™



Library Preparation and Loading

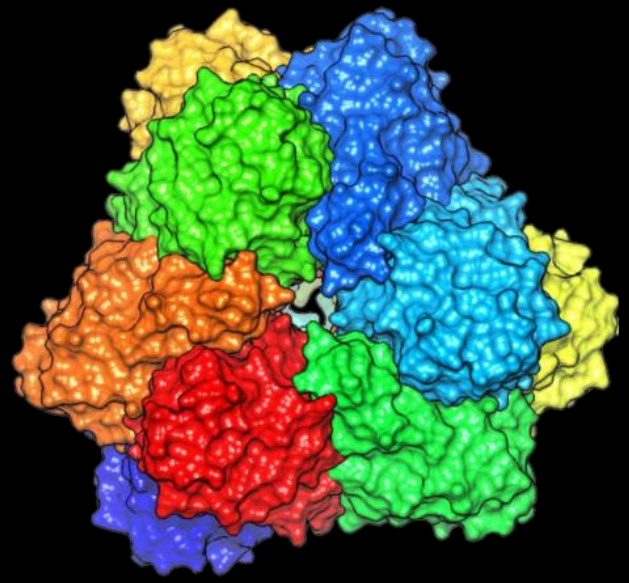


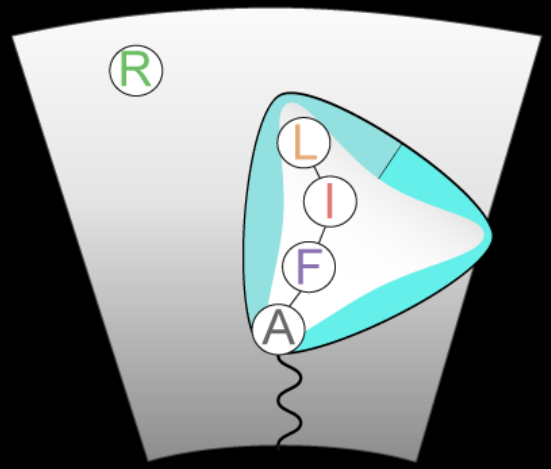
Protein Sequencing



Additional details are available in our preprint on bioRxiv

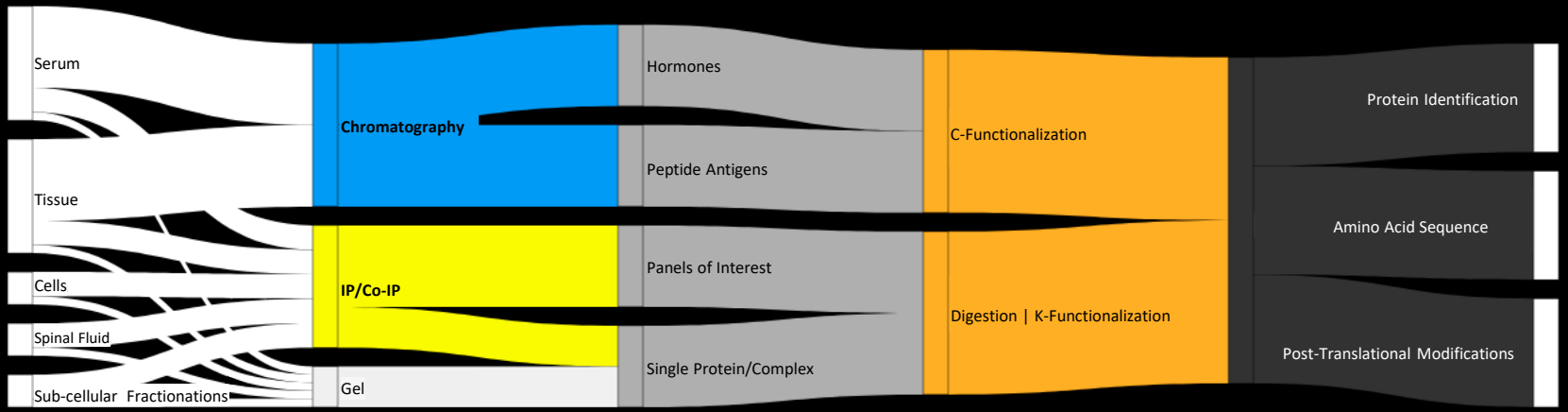
The Magic Enabling Broad Coverage of the Proteome





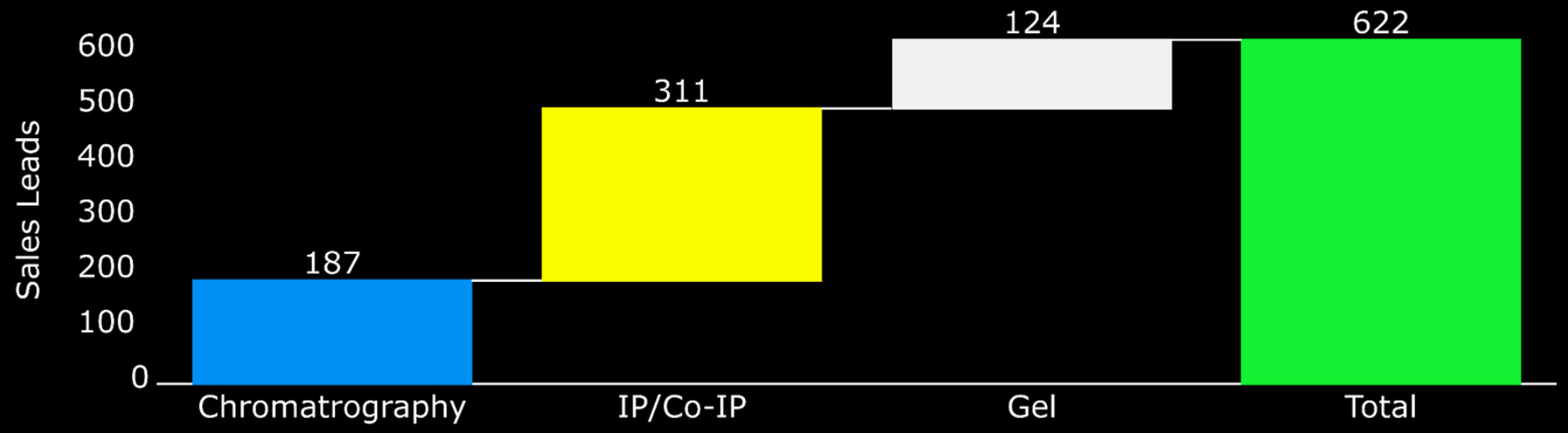
While each protein is unique, the enzyme machines we engineer (aminopeptidases) have evolved to make all peptides behave the same in our system!

Universal Process for Protein Sequencing



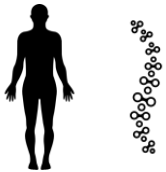
Fits into existing proteomic workflow.

500+ Advanced Leads by Workflow

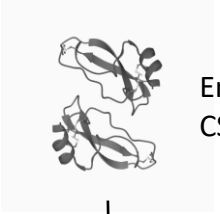


Estimates based on 50% IP/Co-IP, 30% Chromatography, and 20% Gel of 500+ advanced leads

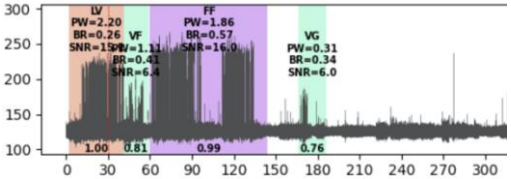
Alzheimer’s Risk Assessment



Collect Cerebrospinal Fluid (CSF)



Enrich Beta Amyloid from CSF



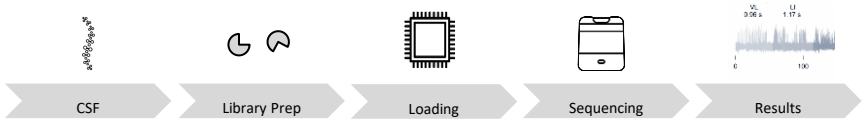
Sequence

LVFF

Healthy

LVLF

Plaque forming



How can you test for early onset Disease?

Biological & Clinical Challenge:

- Less than 1% of Alzheimer’s caused by an inherited single gene.
- Somatic mutations - mutations accumulated over a lifetime.

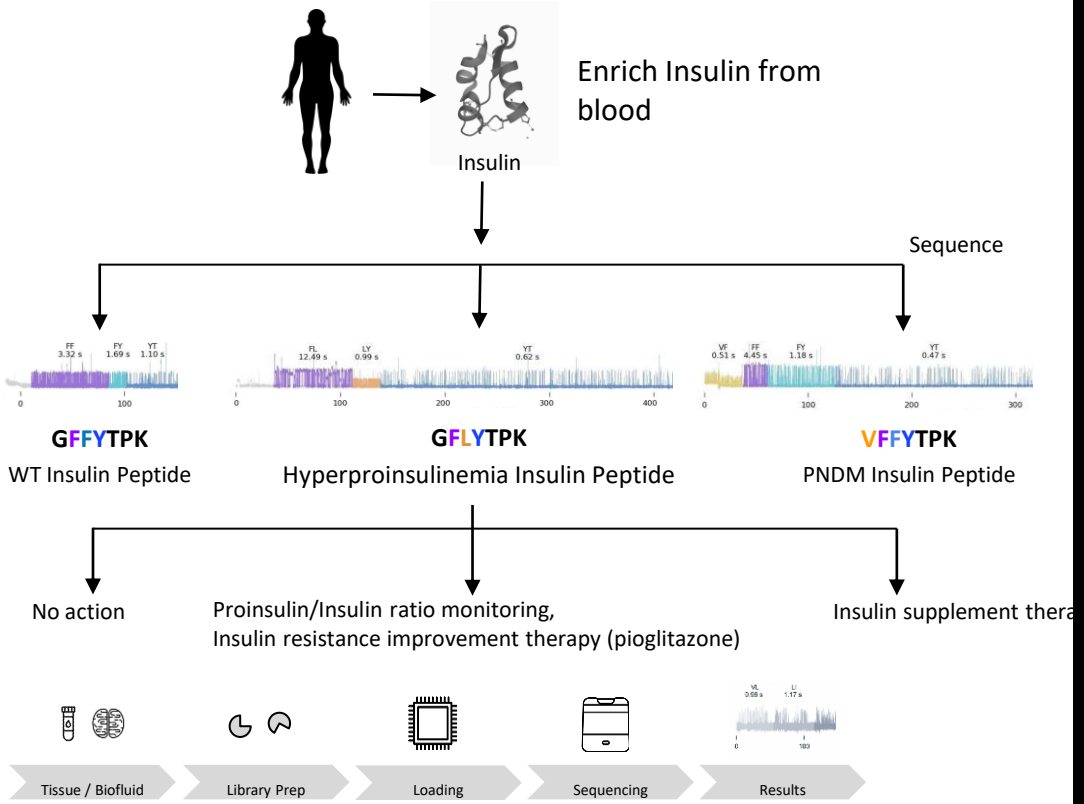
Technical Challenge:

- Source of mutation not known.
- Mass spec is expensive, inconsistent, and often not sensitive enough.

Solution:

- Sequencing of the peptides to identify changes in amino acid sequence.

Metabolic Disease



How can you identify modification of critical peptide hormones?

Biological & Clinical Challenge:

- Heterogeneous populations of variants.

Technical Challenge:

- Accuracy of detection for small mass differences is not consistent by mass spec.
- Sensitivity challenging for less abundant modifications.

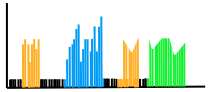
Solution:

- Immunoprecipitation and Sequencing of the peptides to identify point mutations.

Drug Development

Add drug candidate to cell culture

Co-Immunoprecipitation

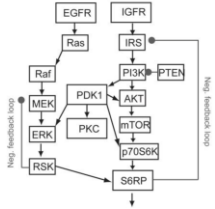


Sequence

F L I pY

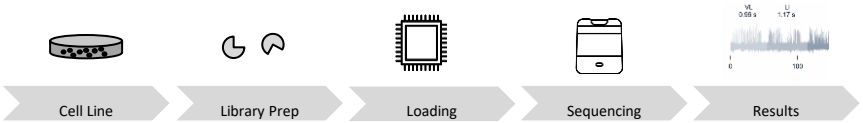
(+) AKT Phosphorylation

Drug response



(-) AKT Phosphorylation

No drug response



How do you identify proteins that interact with target proteins of interest?

Biological & Clinical Challenge:

- New proteins in my pathway?
- How does the complex change in disease?

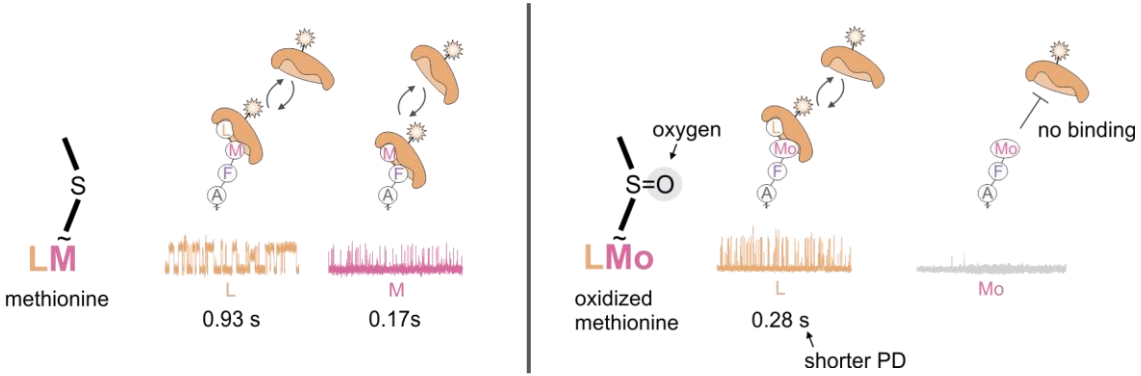
Technical Challenge:

- Routine, robust, scalable, sensitive tools to discover new proteins and post-translational modifications.

Solution:

- Peptide sequencing to discover new proteins.
- Comparisons between samples to identify new post-translational modifications.

Single Molecule, Single Atom Detection



No *a priori* knowledge needed to detect new biological markers.

The oxidation of the penultimate residue is detected by a reduction in the average pulse duration of the N-terminal recognizer (as well as by the blocking of recognition of methionine when it becomes the N-terminal amino acid, as sequencing proceeds).

1,000,000+ Protein Variations!

Biological & Clinical Challenge:

- A protein's modifications determine its function.
- What biomarkers can we discover?

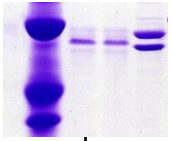
Technical Challenge:

- Impossible technical challenge to generate affinity reagents to ALL PTMs in context (over 1 million).

Solution:

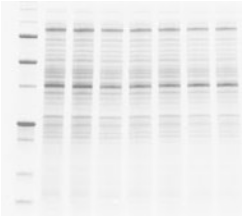
- Q-Si detects modifications without *a priori* knowledge.
- Powerful new method for comparing disease & treatment states to find biomarkers.
- Kinetics enable the detection of post-translational modifications; oxidation, phosphorylation, glycosylation (in the penultimate amino acids).

Proteomics Core on Your Benchtop



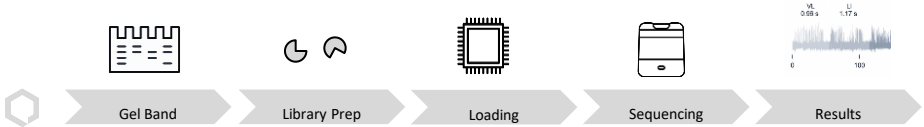
Gel purified protein
What is the second band?

Buy $200k benchtop MALDI?
Send out sample to Mass Spec core?



Can do a Western.
But no Antibody identifies it or explains the difference.

Sequence with convenient, easy to own benchtop box



Sequence Proteins Like we Sequence DNA

Biological & Clinical Challenge:

- What is this protein?
- How is it modified?

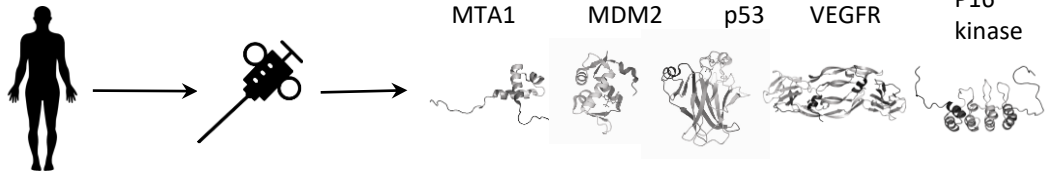
Technical Challenge:

- Weeks waiting for answers from a mass spec core facility.
- Antibodies don't provide new insights.

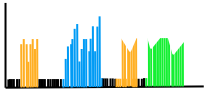
Solution:

- Discover new proteins of interest.
- Identify new protein variations and post-translational modification.

Future of Therapy Selection



Immunoprecipitate 5-10 proteins from biopsy

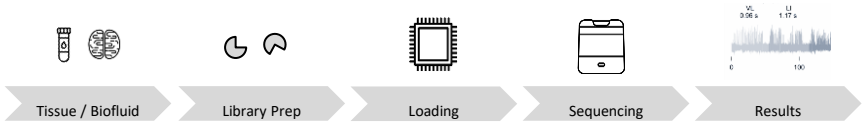


Sequence

F L Y I

Radiation therapy

Chemotherapy



Profiling Cancers to Guide Therapy

Clinical Challenge:

- Survival depends on early correct therapy selection and modifications of treatment regimens.

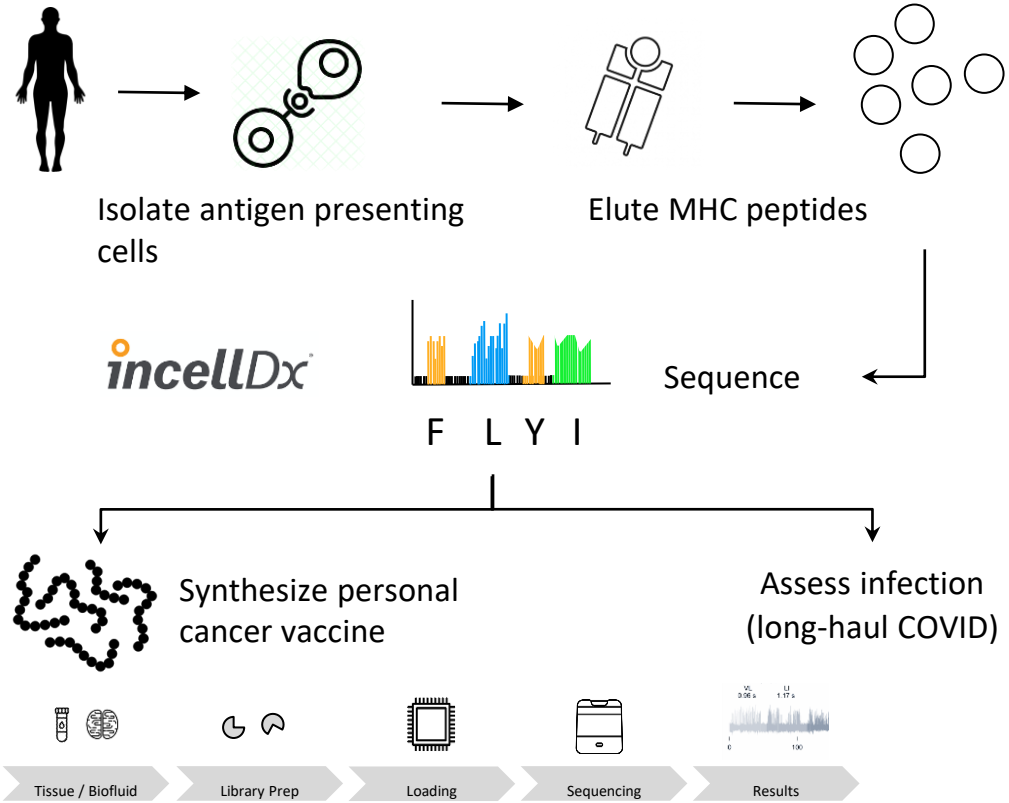
Technical Challenge:

- Genetic tests detect chromosomal aberrations, not protein alterations.
- Disease instability requires frequent testing & new understanding.

Solution:

- Q-Si Sequencing enables biomarkers select therapy.

Enabling Personalized Medicine



Identify Antigens for Personalized Immunotherapy or to Understand Infection

Clinical Challenge:

- Highly diverse peptides of unknown origin.
- Need to identify modifications.

Technical Challenge:

- Peptides missed by mass spec
- Relevant neoantigens or antigenic pathogens relatively low abundant.

Solution:

- Q-Si sequencing to identify antigen targets.
- Understanding of new Covid Variants.

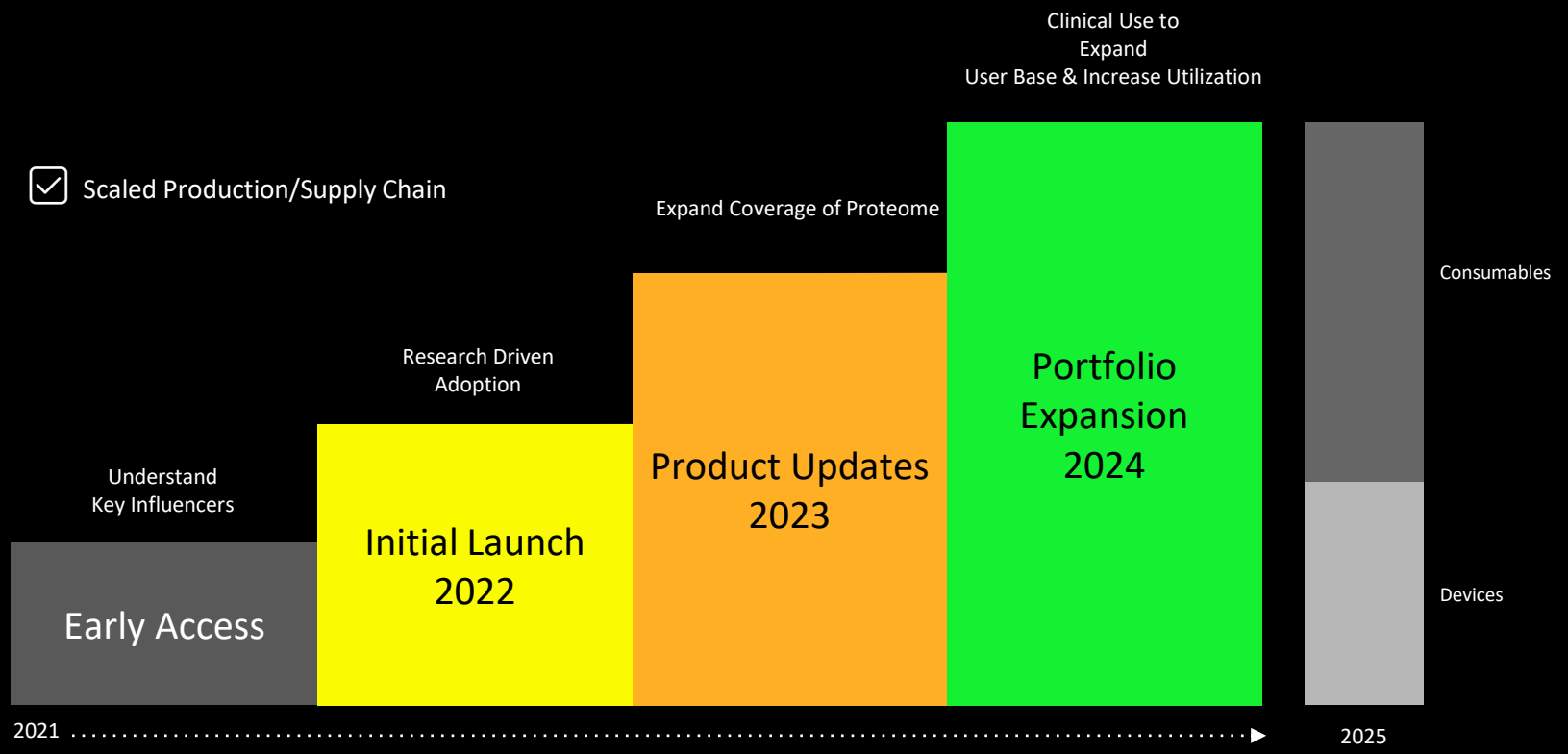
Goals for Commercial Launch

~70% loading of proteome after library prep into 5 to 25 amino acid long peptides

200,000+ reads per run, with 10 to 20 reads for each high confidence call

5 to 50+ proteins over 3 or 4 logs concentration range

Roadmap for Customer Adoption & Growth



~$470 M

to fund work through 2024

Experienced

team of

150+

With team members that invented and commercialized the first Next Generation DNA Sequencing and put DNA sequencing on a Semiconductor chip, we are well positioned to launch the World's First Next-Generation Protein Sequencing

Catalyst for Success

Oncology drove Next Generation DNA Sequencing

Immunology, Immuno-oncology & Infectious Disease will drive Next-Gen Protein Sequencing™

The first
to bring Next-Gen DNA Sequencing to market

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The vision
to bring Moore's Law to DNA Sequencing

ion torrent

The team
to bring Next-Gen Protein Sequencing™ to the world

QuantumSi