Unlocking the Protein World

Erik Gunther, PhD
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Stephen Strittmatter, MD PhD
The Genomics Revolution has not been matched by a Proteomics Revolution

DNA technology

40 yrs ago
Sequencing
gel

Now
High Throughput
Sequencing

Situation

Multiplexed data
→ Genomics Revolution←

Protein technology

Western Blot

Western Blot

Non-multiplexed data
→ Revolution in Waiting←

little info
3D Nanoscale Protein Capture
“3D-NPC”

ProteoWise is led by a seasoned team of scientists seeking to disrupt proteomics

Steve Strittmatter, MD PhD
Professor: Neurology, Yale
Founder: Alzheimer’s Center, Yale
Founder: Center for Neurodegeneration & Repair, Yale
Founder: ReNetX, inc.

Erik Gunther, PhD
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ProteoWise’s 3D-NPC Disk allows indefinite rapid sequential probing of fixed proteins and data capture on a single disk

ProteoWise Technology
3D-NPC Disk

- Proteins are covalently fixed in pores (patent)
- Disk rapidly re-probed with antibodies to detect multiple proteins
- Unlimited re-probings = hundreds of datapoints overnight

Vastly Better than Western Blot
- 100x More data per sample
- 50x Faster
- 10x Cheaper
- 50x Smaller

proteins bound to walls of nanopores
ProteoWise Provides Uniquely Advantageous Feature Combination

Superior performance on all metrics

- This combination of high-content, high-throughput and low-cost technology is what’s driving the genomic revolution and is needed for proteomics.
Path Forward

Near Term
- Western Blot → • 3D-NPC instruments and consumables $400M
- Multiplex disruption → • 3D-NPC instruments and consumables $618M

Longer Term
- Killer applications → • Molecular diagnostics $23B
  • Multiplexed drug discovery untapped
- Market expansion → • Unpredictable applications from new tech availability

Return: Company sale/strategic partnership/IPO at some point on this continuum
3D-NPC instrument

Technical foundation

Intellectual property (Yale OCR)

Process Validation/MVP Development (12 mo)

Initial Engineering: $200K-300K
Process Optimization: $150K-250K
Materials Development: $150K-200K
Total: $500K-750K
1. **3D-NPC protein detection platform:**
   - 50 x throughput
   - 0.1x cost
   - multiplexed data
   - faster, better, cheaper

2. **Opportunity:**
   - Equipment & consumable sales
   - Disrupt Western & Multiplex markets
   - Subsequent revenue: killer applications
     - Medical diagnostics, Drug discovery

3. **Team:**
   - Steve Strittmatter
   - Erik Gunther
   - Mikhail Kostylev

4. **Ask: initial $500-750K**
   - System Engineering
   - Process Optimization
   - Materials Development