A Therapy to Eliminate Certain Tumors Without the Collateral Damage of Chemo, Radiation or Surgery

September 2023

Forward Looking Statement

This presentation contains forward-looking information under applicable securities law. All information that addresses activities or developments that we expect to occur in the future is forward-looking information. Forward-looking statements are based on the estimates and opinions of management on the date the statements are made.

Such forward-looking statements include, but are not limited to, statements regarding the benefits to accrue to Sona from the future development of Targeted Hyperthermia Therapy and the development of diagnostic devices.

Forward-looking statements are necessarily based upon a number of assumptions or estimates that, while considered reasonable, are subject to known and unknown risks, uncertainties, and other factors which may cause the actual results and future events to differ materially from those expressed or implied by such forward-looking statements, including the risk that Sona may not be able to successfully complete the Giacomantonio study, secure animal and human clinical studies, or develop the envisioned device or therapy, and the risk that equity financing may not be available on the anticipated terms or at all.

Actual results may differ materially from those set forth in this presentation due to risks and uncertainties affecting Sona and its products, including the demand for Sona's therapies and tests which may be adversely affected by introduction or success of competing products, the ability for Sona to successfully develop longer-term applications for its technology and other risks detailed from time to time in Sona's ongoing filings and in its most recent annual information form filed with the Canadian regulatory authorities on SEDAR at www.sedar.com.

Readers are cautioned not to place undue reliance on these forward-looking statements and are encouraged to read Sona's continuous disclosure documents which are available on SEDAR. Such statements should not be regarded as a representation that any of the plans, expectations or intentions will be achieved. Sona takes no responsibility to update forward-looking statements in this presentation except as required by law.

Sona Nanotech at a Glance

- Patented[(1)], biocompatible proprietary gold nanoparticle technology
- **Therapies**:
  Developing 'Targeted Hyperthermia Therapy' to eliminate colorectal tumours without collateral damage
- **Diagnostics**:
  Developer of novel lateral flow assay rapid tests for concussions and animal disease

Poised to benefit from multiple catalysts

Therapies

Multiple milestones targeted for 2023-24

Diagnostics

Two novel, rapid point of care tests heading towards pre-clinical trials

What are Gold Nanorods?

- Rod-shaped nanoparticles made of gold
- Produced by chemical synthesis
- Can be conjugated to different molecules

Uses of Nanorods

Therapies

- Photothermal therapy
- Tumor targeting activity
- Anti-bacterial activity
- Drug delivery vehicle

Diagnostics

- Diagnostic markers for imaging
- Immunoassays and biosensing

Limitations of Other Nanoparticles

- **Toxicity & Shape: Other gold nanorod producers use CTAB** (cyltrimethylammonium bromide)
- **Shape: Nanospheres, nanostars or nanoshells** have less surface area, stability, penetration depth into cells and ability to tune for resonance

Sona GNRs could unlock the power of in-vivo applications

Sona's GNR Advantages

Uniquely Biocompatible:

Sona surfactant uses no CTAB

- Equally as effective at heat transfer as CTAB-based GNRs.
- Potentially more suitable for use in the body: inert and biocompatible

Functional:

Nanorods by Sona have:

- Variety of lengths and widths to increase surface area
- Long shelf life and stable surface properties

Validated:

- Vetted by NCL, which was established by the FDA & NCI to accelerate the progress of nanomedicine by providing preclinical characterization and safety testing of nanoparticles.
  - Neither endotoxins nor microbial contamination were detected

NCL Nanotechnology Characterization Laboratory | NCI Alliance for Nanotechnology in Cancer

Note: 1) Patent granted in South Korea and pending in North America and Europe

01

GNR-Based Therapies

BIOCOMPATIBLE
GNR
GOLD NANOROD TECHNOLOGY

Sona Gold Nanorod ("GNR") Technology

Uniquely biocompatible

Unlocking of in-vivo medical applications potential by developing 'Targeted Hyperthermia Therapy'

Sona Has Engineered the Right 'Gene Pool' to Pursue Its Cancer Therapy

Board

Mark Lievonen
Chairman
- Led vaccine maker Sanofi-Pasteur to a billion-dollar value

Walter Strapps PhD
Director
- CEO of Khosla Ventures CRISPR/Cas13 biotech

Neil Fraser
Director
- Led Medtronic Canada for ~20 years

Dr. Michael Gross
Director
- Surgeon and corporate director

Jim Megann
Director
- 25 years of experience in capital markets

Project Team

Glenn Kanner, B.Eng., MBA
- Medical device product development consultant

Len Pagliaro, PhD
- Developer of Targeted Hyperthermia Therapy

Kulbir Singh, PhD
- Co-Developer of CTAB-free gold nanorods

Sandra Brannen
- Head of Quality & Regulatory Affairs

David Regan, MBA
- CEO
- Commercial and project lead

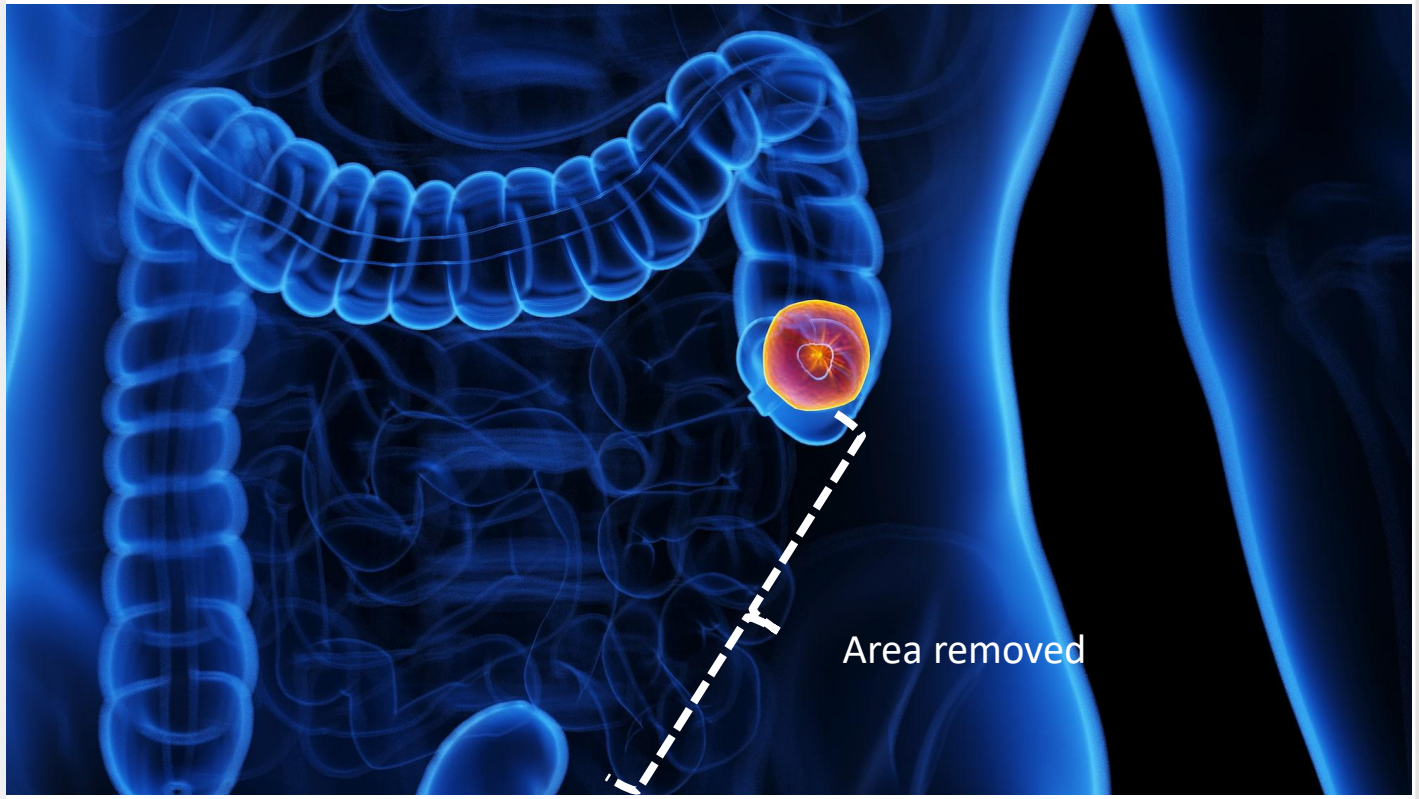
Advisors

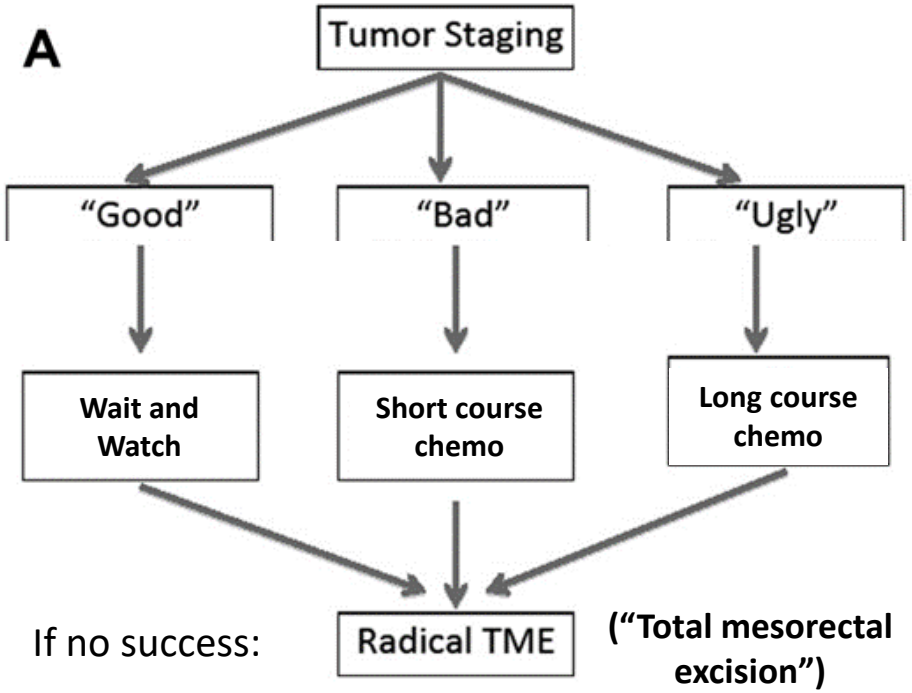
Dr. Catherine J. Murphy
- Inventor of gold nanorods

Dr. Swarna Balasubramaniam
- Colorectal surgeon & entrepreneur

Dr. Gerry Marangoni
- Co-Developer of CTAB-free gold nanorods

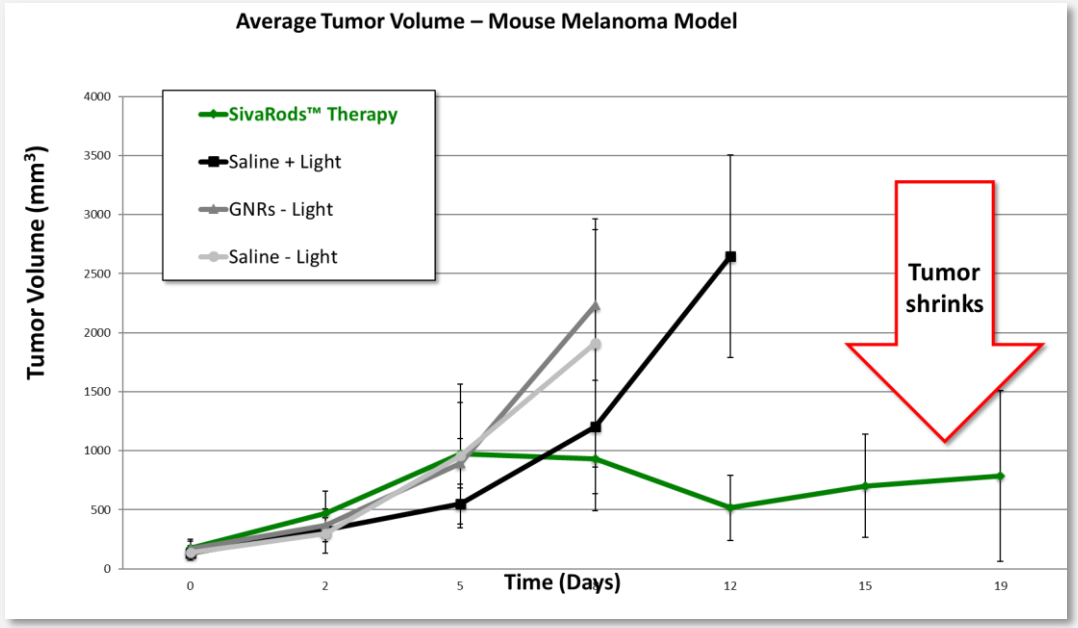
Treatment for Rectal Cancer is Often Limited to Risky Surgery, Resulting in a Poor Quality of Life

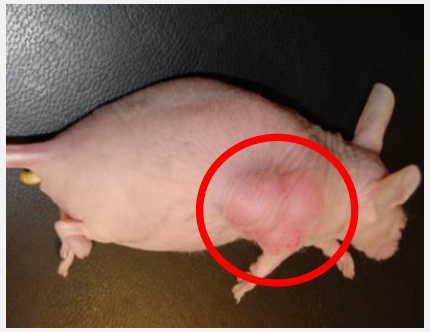




Too often, there is no choice but excision of a section of the bowel

Sona is Developing a Therapy to Shrink Tumors Without Surgery, Chemo or Radiation with Positive Results to Date





Day 0
Immediately after treatment, large multi-lobed tumor

Day 19
Tumor mass gone

Day 59
"Durable cure"
(same mouse in all images)

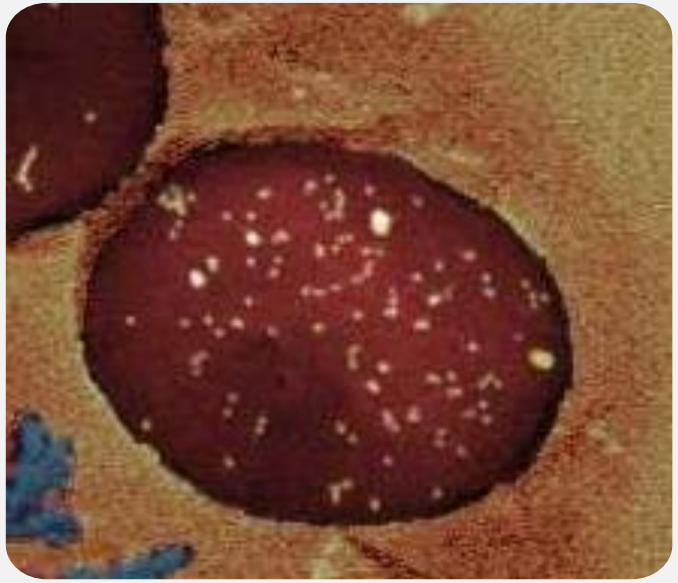
Popp, M.K., Oubou, I., Shepherd, C., Nager, Z., Anderson, C. and Pagliaro, L. (2014) ***Photothermal therapy using gold nanorods and near-infrared light in a murine melanoma model increases survival and decreases tumor volume.*** Journal of Nanomaterials.

‘Targeted Hyperthermia Therapy’ (“THT”) Will Use Current Technology to Apply IR Light to GNR-saturated Tumors

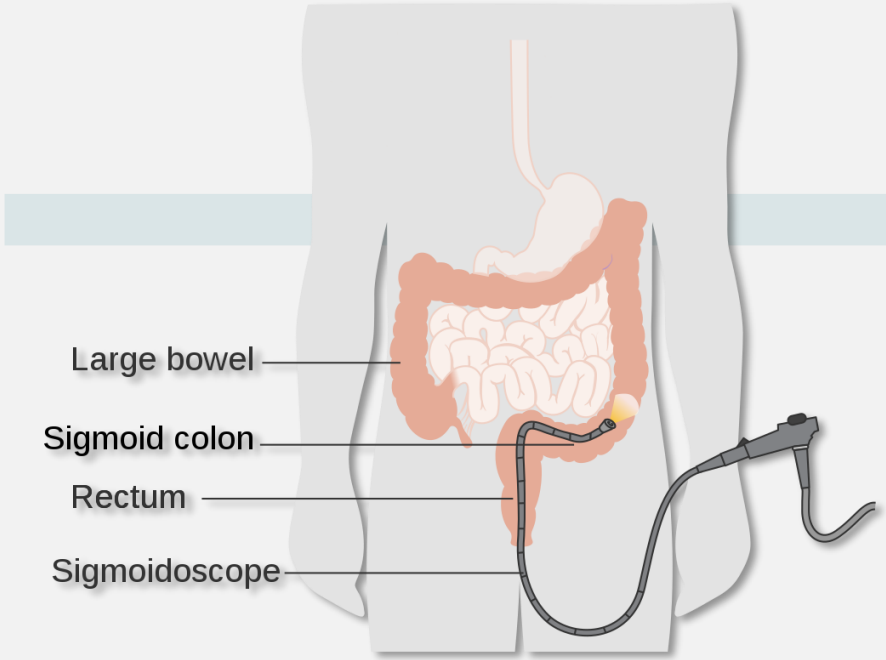
Conceptual

A Two-step Therapy

Step 1.
Inject Biocompatible Gold Nanorods



Nanoparticles shown in a red blood cell



Step 2.
Shine IR Light Tuned to 850nm on tumour

Sona’s 2.0 light device to be applied to a tumour saturated with Sona GNRs

THT's 'Hyperthermia' Approach is Designed to Kill Cancer Cells Selectively, and Not Harm Healthy Tissue

Steak As An Analogy For Human Tissue

Typical Approach:
"ABLATION"
(> 55°C)

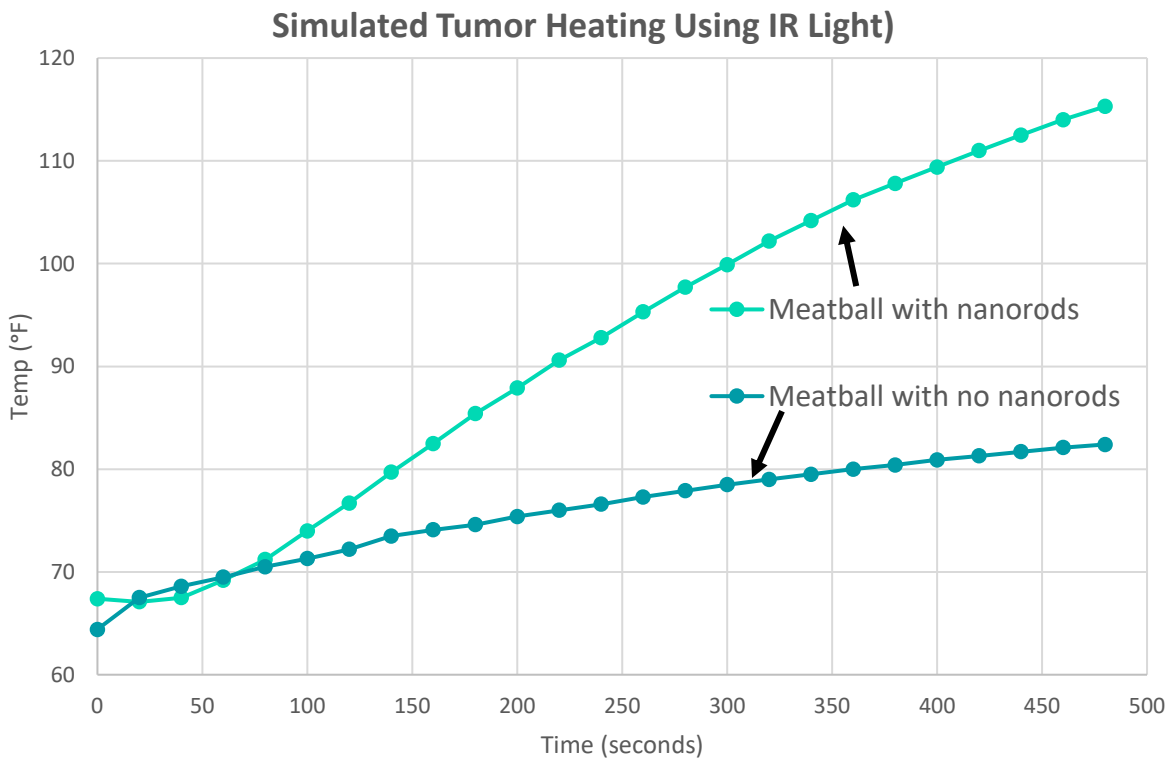
Medium-well

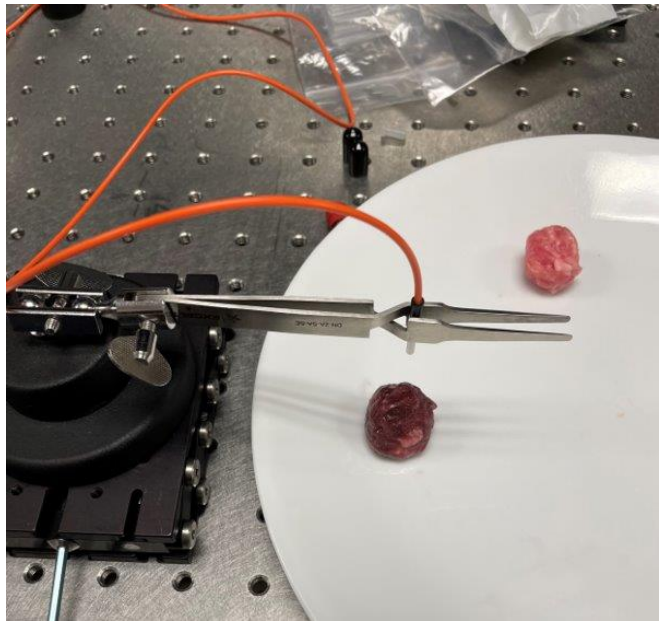
Sona's THT Approach:
"HYPERTHERMIA"
(~44°C)

Blue Rare

Goal is to avoid the damage of 'blasting' heat indiscriminately

Heat Kills Cancer Cells and Gold Nanorods are Highly Efficient at Converting Harmless IR Light Energy into Heat

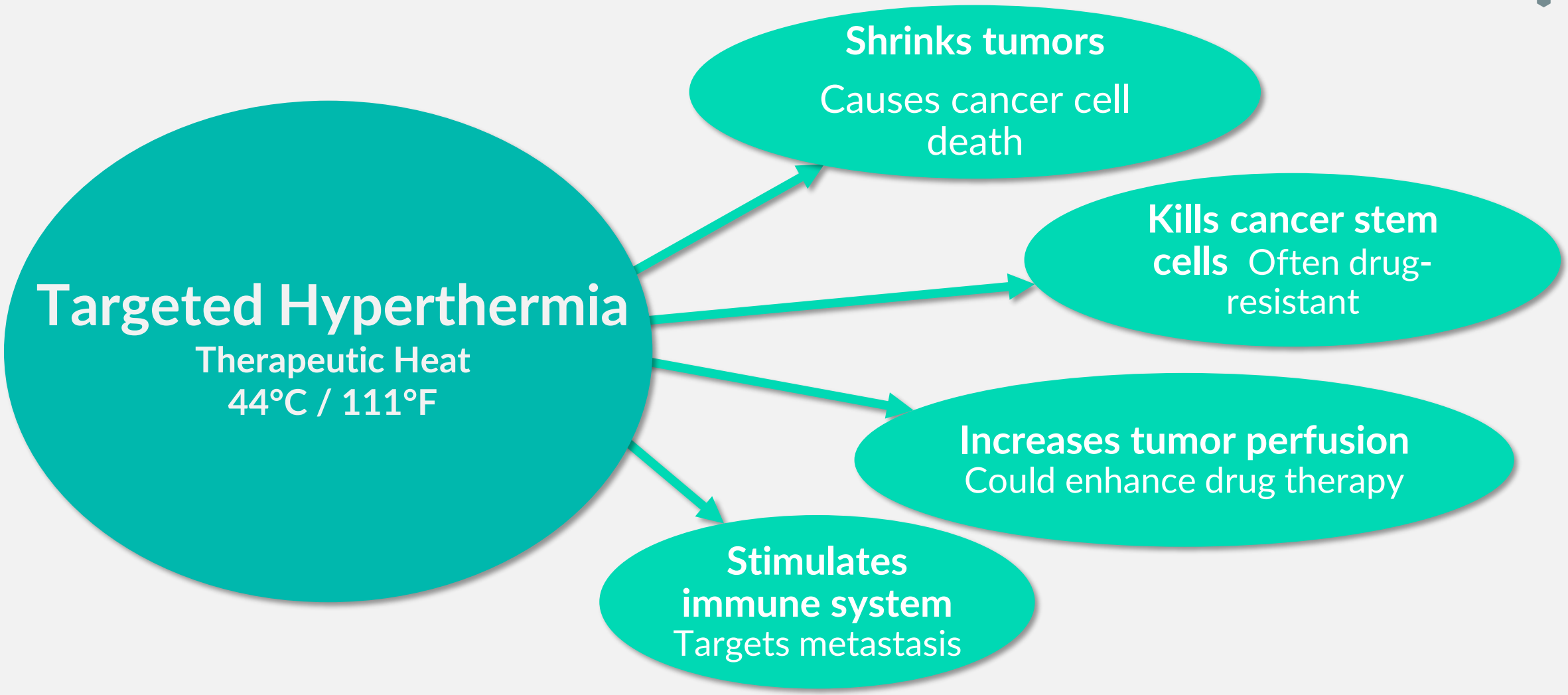




An IR Light Shining on A Simulated Tumor Saturated with GNRs

Simulated tumour reaches hyperthermia with GNRs

Plus, 'Hyperthermia' Brings Multiple, Incremental Physiological Benefits



Note: See appendix or consult company for extensive third-party supporting research studies

Goal to 'Steal' Market Share From Chemo, Radiation and Resection Surgeries for Rectal Cancer

Prospective

	Stage 1	Stage 2	Stage 3	Stage 4
Cancer Stage Characteristics	Local	Regional	Lymph Node	Metastatic
Current Standard of Care	Watch and wait/CRT	CRT/Resection	CRT/Resection	CRT/Resection
Targeted Hyperthermia Therapy Applicable?	**Expected**	**Expected**	**Possible, for early stage 3 cancers**	Not applicable

Plan to start with rectal cancer, but then extend to others

The Risks of the Commercialization of THT May Be More Operational than Technical

Previously Done/Approved:

- ✓ Using heat to treat cancer
- ✓ Photothermal treatment using infrared light devices
- ✓ FDA has approved NPs for injection for human clinical trials
- ✓ THT efficacy and safety in small animals demonstrated in peer reviewed scientific journal

Sona Needs to Do:

1. Deliver infrared light through an endoscope that can monitor temperature in real time
2. Studies to demonstrate safety and efficacy of THT in large mammals
3. Studies to determine optimal dosage of GNRs
4. Studies to determine optimal treatment duration
5. Develop intellectual property protection

Compelling Prospective Market…and Potential to Save Thousands of Lives Annually

Cancer	Rectal	Colon	Esophageal	Head & Neck	Total
Cases per Year	46,000	106,000	21,000	67,000	238,000
Treatable by THT	28,000	40,000	9,000	30,000	106,000
Deaths Per Year	18,000	34,000	17,000	16,000	85,000

USA Data only

Colon, rectal, colorectal data:
Siegel, RL, Wagle, NS, Cercek, A, Smith, RA, Jemal, A. Colorectal cancer statistics, 2023. *CA Cancer J Clin*. 2023; 73(3): 233- 254. doi:10.3322/caac.21772
Esophageal: https://seer.cancer.gov/statfacts/html/esoph.html
Head & Neck: https://www.cancer.net/cancer-types/head-and-neck-cancer/statistics

Progress Updates:

GNR 'GMP' Manufacturing:

- Increased yield via tangential flow filtration ("TFF")
- Significantly reduced free surfactant levels
- Diligencing three 'GMP' manufacturing partners

Pre-clinical Trial Plan:

- Two CRO's recommendations for:
  - Safety studies
  - Biocompatibility studies
- Discussing efficacy study at medical university laboratory

Stakeholder Engagement:

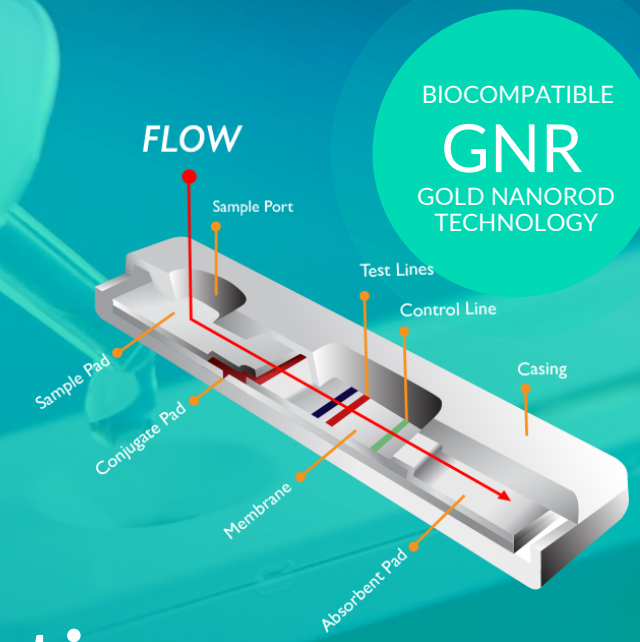
- Clinician engagement – discussing facilitation for expert feedback
- Community engagement – outreach to 150+ patient advocacy groups

Regulatory Pathway:

- Engaged experienced regulatory advisor
  - Lead is ex-FDA medical devices group (CDRH)
- Communicating with FDA
- "Pre-Sub" meeting pending
- Two device strategy being pursued initially

02

GNR- Based Diagnostics



BIOCOMPATIBLE
GNR
GOLD NANOROD TECHNOLOGY

Lateral Flow Assays (LFA's) as diagnostic tools are:

- Simple
- Fast
- Low-cost
- Rely on nanoparticles

Can provide rapid results (eg. at-home pregnancy tests) at point-of-care

How could Sona's GNRs make a difference?

- Multiple test lines per unit
- Easy-to-read results from one small sample
- Potentially greater sensitivity could detect trace amounts of biomarkers

Sona's Bovine Tuberculosis Test Prototype

17.7m
BOVINE TB TESTING EVENTS PY IN UK[13]

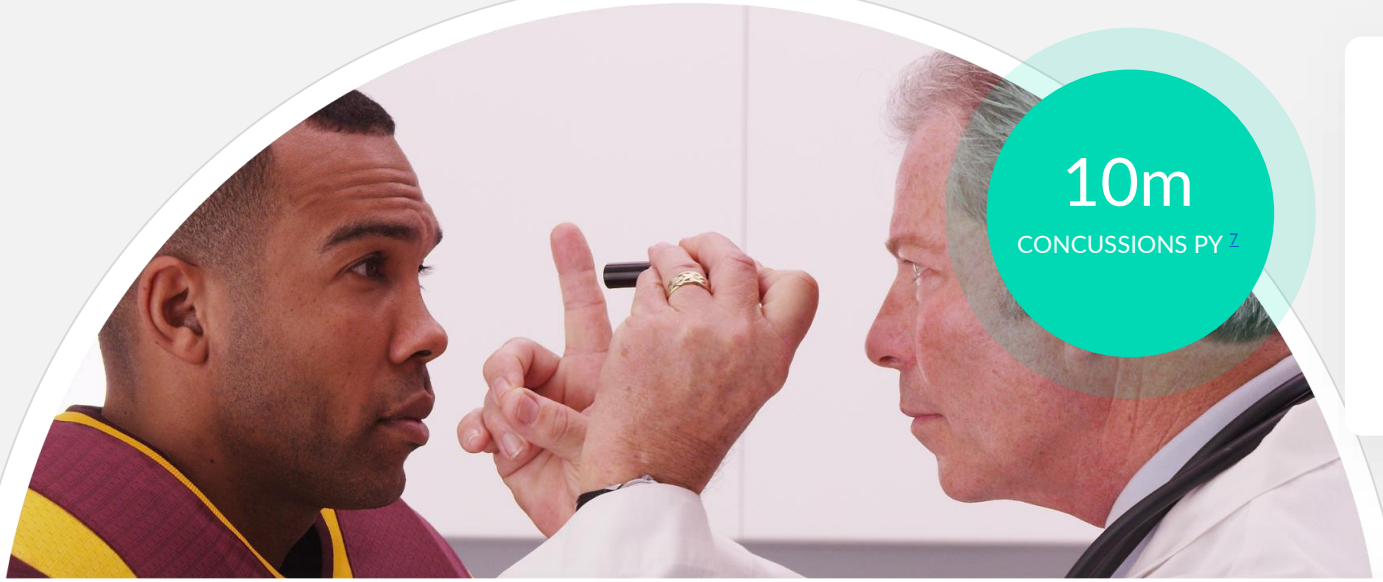
"With help from the NRC IRAP program and the collaboration with our partners in the UK, we hope to offer farmers a more effective method for early detection of bovine TB than is currently used to mitigate the spread of this debilitating disease."
David Regan
CEO of Sona Nanotech

	Current Methods & Issues	Sona's Bovine Tuberculosis Solution
Time to results	✗ **No cost-effective early detection methods currently available** • A diagnosis through a skin test, turnaround of 48-72 hours[10] • Post-mortem examination and tissue culture, can take up to 12 weeks[11]	✓ **Early detection at low cost without the need for test-and-slaughter** • Blood sample taken for rapid lateral flow test • Associated app for tracking and reporting in minutes
Cost of Intervention	✗ Once bTB is confirmed, all exposed animals in a herd are destroyed Estimated costs of bovine TB control in UK to top £1 billion over the next decade[12]	✓ Rapid screening of individual animals, no need to destroy healthy cattle
Accuracy	✗ Skin test cannot distinguish between infected and vaccinated cattle	✓ Discern TB positive from TB inoculated cattle

Validated in-lab with contrived blood samples

Next Steps
- Validate with clinical samples
- Clinical trials

Sona's Concussion Screening Test Prototype



"We estimate that between 1.1 and 1.9 million sports and recreation related concussions occur annually in US children aged ≤18 years."
American Academy of Pediatrics[8]

	Current Problems	Sona's Concussion Screening Solution
Biomarkers	× Other concussion markers only elevate within hours or days	✓ GFAP (Glial Fibrillary Acidic Protein) Released into the blood stream within minutes of a concussion[9]
Assessments	× Current tests rely on subjective cognitive assessment	✓ GFAP to be multiplexed with other concussion biomarkers to create unique mTBI fingerprint
Time to result	× Currently no readerless, true ***point of impact***, rapid concussion test commercially available	✓ Relies on definitive biomarker identified associated with concussions ✓ Rapid lateral flow test at the scene
		Validated in-lab with contrived concussion blood samples

Next Steps
- Validate with clinical samples
- Clinical trials

Sona's concussion screening test to be used at the scene of injury

Management Team

David Regan
CEO

- Business and commercial operations oversight
- Strategy consultant and corporate director
- 15 years public company experience in strategy, IR and corporate development
- MBA from INSEAD and BBA (Hons) from St. FXU

Len Pagliaro, PhD
CSO

- Prof. of Bioengineering & Laboratory Medicine at University of Washington
- 24yrs exp with biotechnology products, services, & technology licensing
- Developed commercialization at BioImage from concept to a $26M P&L in 4 yrs, leading to acquisition & integration by ThermoFisher Scientific
- As CEO of Dynamic Light, Inc. led the spinout of an academic team from concept to first revenues in under 3 years

Darren Rowles
Head of Diagnostics

- 17 years' experience with nanoparticle diagnostics
- Grew nanoparticle sales from $200K to $5.5M with ~$4M profit
- Advisory board member to Gold Conference and multiple university collaboration projects
- MBA from Bath University and BSc in Biomedical Science and Toxicology from UWIC

Kulbir Singh PhD
Co-Founder &
Head of GNR R&D

- Responsible for GNR development
- Named author on 35 research papers and 2 patents
- PhD in chemistry from Guru Nanak Dev University
- Co-founder of a science-based, consumer product company

Robert Randall, CPA
Chief Financial Officer

- Extensive public company experience as CFO Torrent Capital, Antler Gold and eXeBlock Technology
- B.Comm. from St. Mary's University with CA designation in 1987 with Coopers and Lybrand Chartered Accountants

Board of Directors

Mark Lievonen
Chair

- Past-president of Sanofi Pasteur Limited
- Co-Chair of the Government of Canada's COVID-19 Vaccine Task Force
- Director of OncoQuest Pharmaceuticals, Biome Grow, and the Gairdner Foundation
- MBA, FCPA

Walter Strapps
Director

- CEO and co-founder, Carver Biosciences Inc., a Khosla Ventures CRISPR/Cas13 antivirals development company
- Previously Chief Scientific Officer of Gemini Therapeutics, head of Discovery at Intellia Therapeutics, and working with RNA therapeutics
- M.A., M.Phil., Ph.D

Neil Fraser
Director

- Past-president of Medtronic Canada
- Life Sciences Strategy Council Member, Canadian Chamber of Commerce
- Health Canada's Advisory Panel on Health Innovation chaired by Dr. David Naylor
- Director of CloudMD
- B.A,Sc., MBA

Dr. Michael Gross
Director

- Professor of Orthopedic surgery
- Medical director of the Regional Tissue Bank
- Current director of Fortune Bay, Chair Boomersplus
- MBBS FRCSC, ICD.D

James Megann
Director

- 25 years of experience in venture capital, capital markets and marketing
- Managing Director of Numus Financial which has completed over $1.5B in transactions
- He also serves on the board of Torrent Capital (TSX-V: TORR).

Advisory Board

Dr. Catherine J. Murphy

- Peter C. and Gretchen Miller Markunas Professor of Chemistry at the University of Illinois at Urbana-Champaign (UIUC)

Dr. Xu Zhang

- Industrial research chair in applied nanotechnology at Cape Breton University, NS
- Chemist with extensive experience in immunoassay and cancer research.

Dr. Gerry Marangoni

- Co-Founder of Sona
- Tenured professor of chemistry at St. Francis Xavier University in Antigonish, NS

Fiona Marshall

- Extensive experience in the lateral flow industry.
- Responsible for establishing a US based R&D and production facility for various lateral flow tests, including tests for class 3 deadly pathogens that served US military contracts

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Thank you

David Regan

CEO

Sona Nanotech Inc.

APPENDIX

Appendix A
Sources in document

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9. Association between plasma GFAP concentrations and MRI abnormalities in patients with CT-negative traumatic brain injury in the TRACK-TBI cohort: a prospective multicentre study
10. Agriculture and Horticulture Development Board 2020
11. Ontario Ministry of Agriculture, Food and Rural Affairs
12. National Farmers' Union (NFU) of England and Wales
13. Bovine TB summary for England over the 12 months up to September 2022
14. Michaeli, D. T., Yagmur, H. B., Achmadeev, T., & Michaeli, T. (2022). Value drivers of development stage biopharma companies. The European Journal of Health Economics, 23, 1287-1296
15. Rooswinkel, R.W., Berbers, D.S.W., Claassen, E.H.J.H.M., van Deventer, S.: Venturing across the Atlantic. Nat Biotechnol 34, 1095–1098 (2016)
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Appendix B
Additional Reading

Gold Nanorods

Gold nanorods as contrast agents for biological imaging: optical properties, surface conjugation and photothermal effects

Fabrication of Gold Nanorods with Tunable Longitudinal Surface Plasmon Resonance Peaks by Reductive Dopamine

Gold Nanorods: The Most Versatile Plasmonic Nanoparticles | Chemical Reviews

Functionalized gold nanorods for nanomedicine: Past, present and future

Nanomaterials: An Overview of Nanorods Synthesis and Optimization |

Spheres vs. rods: The shape of gold nanoparticles influences aggregation and deposition behavior –

Targeted Therapies

Functionalized Gold Nanorods for Tumor Imaging and Targeted Therapy – PMC

Nanomaterials | Free Full-Text | Potential of Polymeric Films Loaded with Gold Nanorods for Local Hyperthermia Applications

Effects of differently shaped TiO2NPs (nanospheres, nanorods and nanowires) on the in vitro model (Caco-2/HT29) of the intestinal barrier | Particle and Fibre Toxicology | Full Text

Gold nanospheres and nanorods for anti-cancer therapy: comparative studies of fabrication, surface-decoration, and anti-cancer treatments - Nanoscale (RSC Publishing)

Traumatic Brain Injury

Injury in review, 2020 edition: Spotlight on **traumatic** brain injuries across the life course -

Traumatic Brain Injury–Related Emergency Department Visits, Hospitalizations, and Deaths — United States, 2007 and 2013 – PMC

Epidemiology of severe **traumatic** brain injury - Surveillance Report of **Traumatic** Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths

The impact of **traumatic** brain injuries: a global perspective – PubMed

Publications & Reports | Concussion | **Traumatic** Brain Injury | CDC Injury Center

Traumatic Brain Injury–Related Deaths by Race/Ethnicity, Sex, Intent, and Mechanism of Injury — United States, 2000–2017 | MMWR

Traumatic Brain Injury: An Overview of Epidemiology, Pathophysiology, and Medical Management – ScienceDirect

Estimating the global incidence of **traumatic** brain injury – PubMed

Epidemiology of **Traumatic** Brain Injury in Europe: A Living Systematic Review | Journal of Neurotrauma

Surveillance Report of **Traumatic** Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths