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

November 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 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
- Numus Capital Managing Director

Management

David Regan, MBA
Chief Executive Officer
- Capital markets professional
- Former strategy consultant

Len Pagliaro, PhD
Chief Scientific Officer
- Developer of Targeted Hyperthermia Therapy

Kulbir Singh, PhD
Head of R&D
- Co-Developer of CTAB-free gold nanorods

Sandra Brannen
Head of Quality and RA
- Quality control & quality assurance expert

Darren Rowles, MBA
Head of Diagnostics
- 17 years' experience with nanoparticle diagnostics

Robert Randall, CPA
Chief Financial Officer
- Extensive public company experience

Advisors

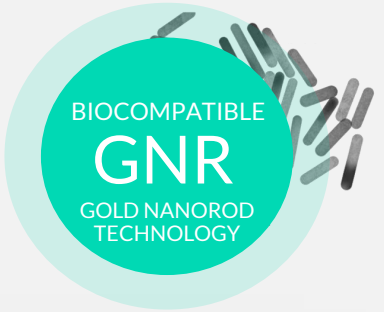
Dr. Catherine J. Murphy
- Inventor of gold nanorods

Dr. Swarna Balasubramaniam
- Colorectal surgeon & entrepreneur

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

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

Sona Nanotech at a Glance



Sona's Proprietary Technology

- Patented*, biocompatible, proprietary gold nanorod manufacturing technology

Used to Develop:

Therapies

- Developing 'Targeted Hyperthermia Therapy' to eliminate colorectal tumors without collateral damage

Diagnostics

- Developer of novel lateral flow assay rapid tests for concussions and animal disease

Which are then licensed to commercialization partners

Sona's Gold Nanorod Advantages

Uniquely Biocompatible:

Sona surfactant uses no toxic CTAB **

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

Functional:

Gold nanorods are functional:

- Variety of lengths and widths to increase surface area
- Aspect ratio control permits tuning to specific wave lengths
- Long shelf life and stable surface properties

Validated:

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

NCL Nanotechnology Characterization Laboratory | NCI Alliance for Nanotechnology in Cancer

* Patent granted in South Korea and pending in North America and Europe

** CTAB: Cetrimonium Bromide

01

GNR-Based Therapies

BIOCOMPATIBLE
GNR
GOLD NANOROD TECHNOLOGY

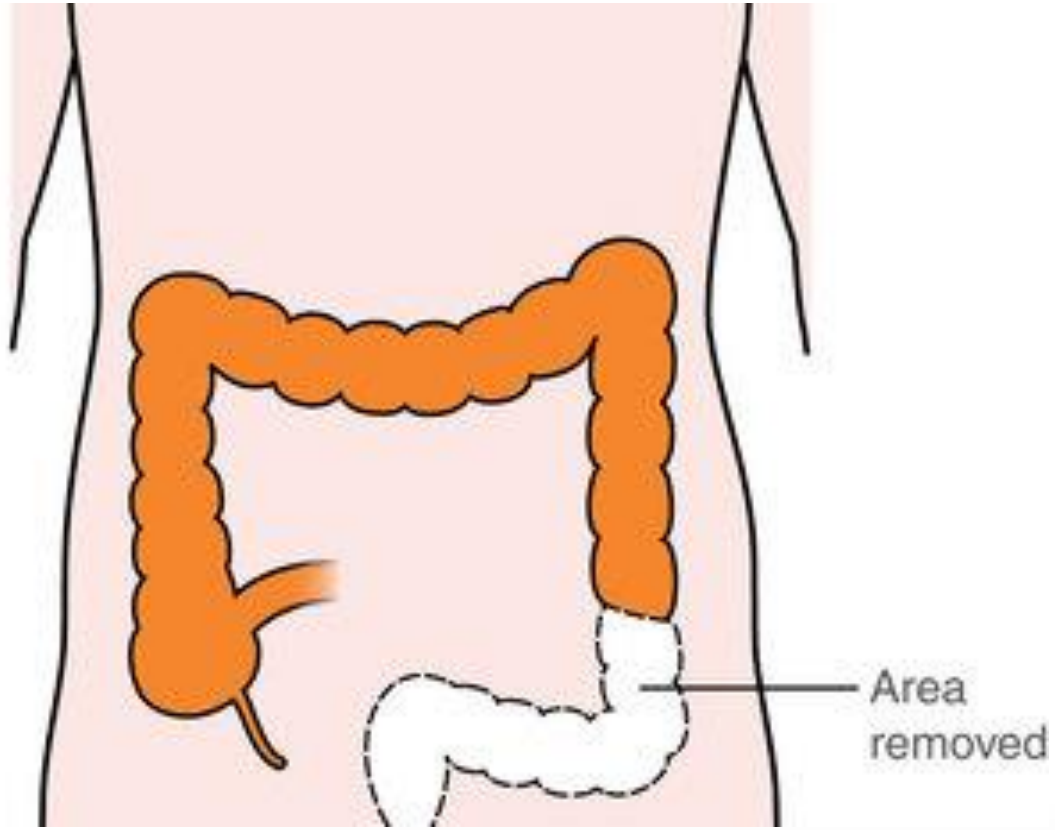
Sona Gold Nanorod ("GNR") Technology

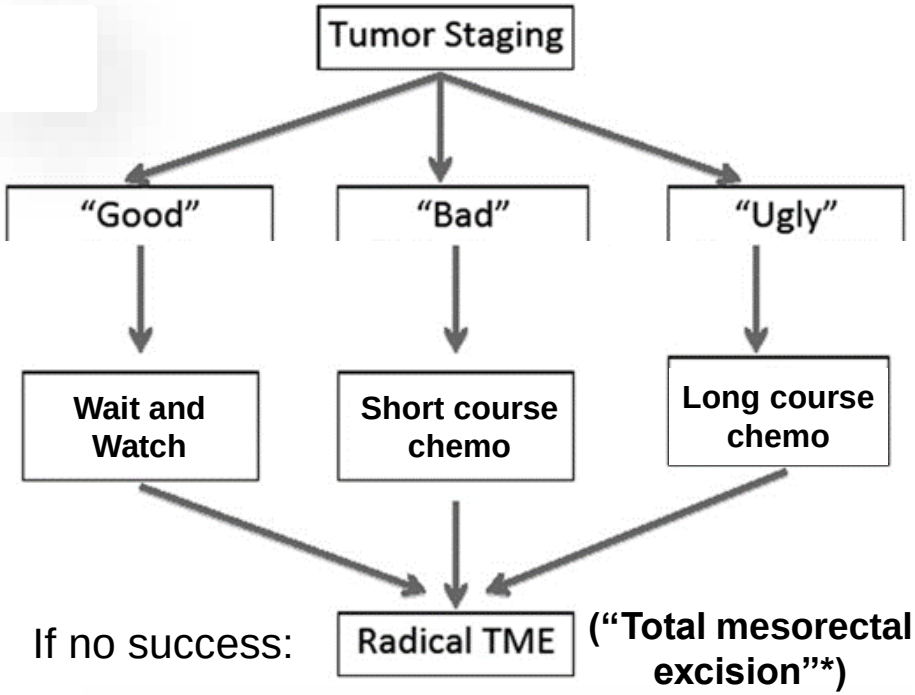
Uniquely biocompatible

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

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

Total Mesorectal Excision



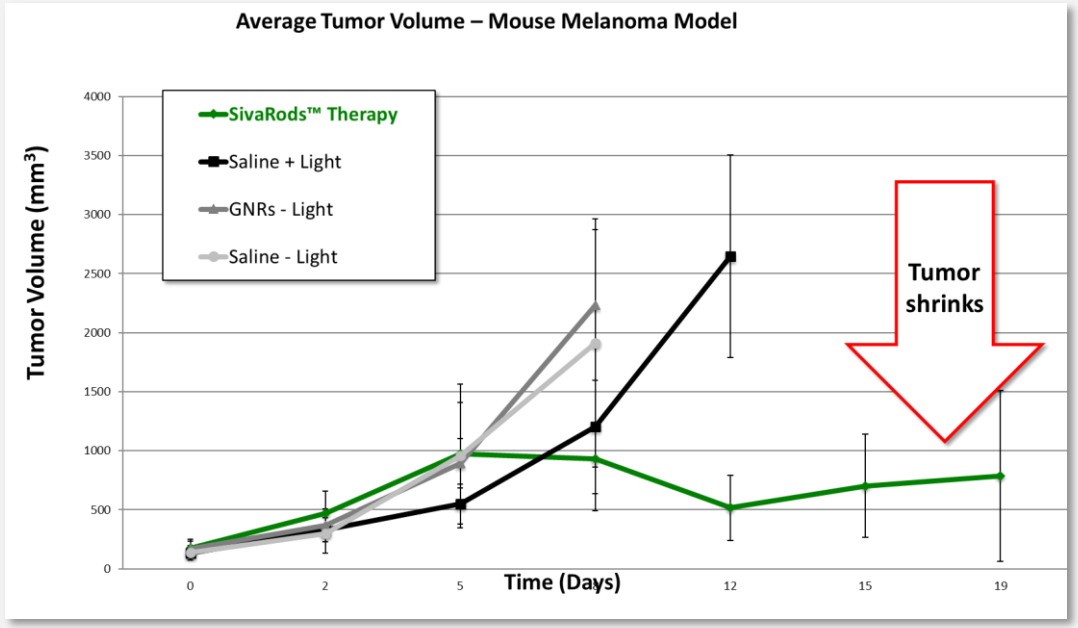


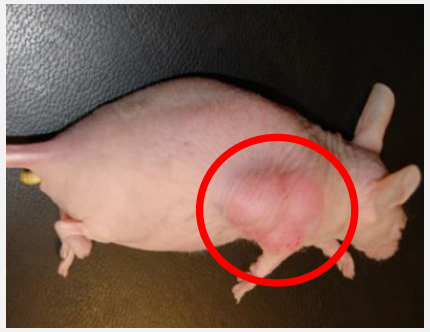
Too often, there is no choice but excision of a section of the bowel

Current 'standard of care' involves poisoning, burning or cutting

* TME: specific surgical technique in the treatment of rectal cancer in which the bowel with the tumor is entirely removed along with surrounding fat and lymph nodes.

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)

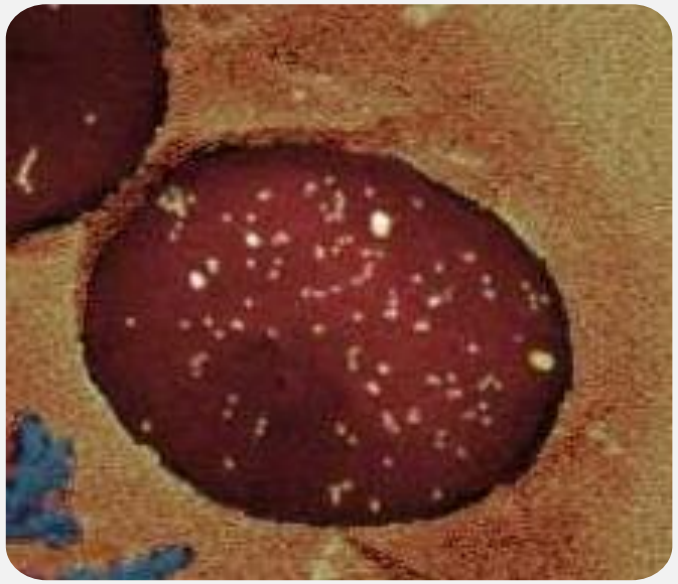
Popp, M.K., Oubou, I., Shepherd, C., Nager, Z., Anderson, C. and Pagliaro, L. (2014) ***Photothermal therapy using gold nanorods and near-infrared light in a murine melanoma model increases survival and decreases tumor volume.*** Journal of Nanomaterials.

Sona's THT therapy resulted in significant tumor shrinkage and longer life

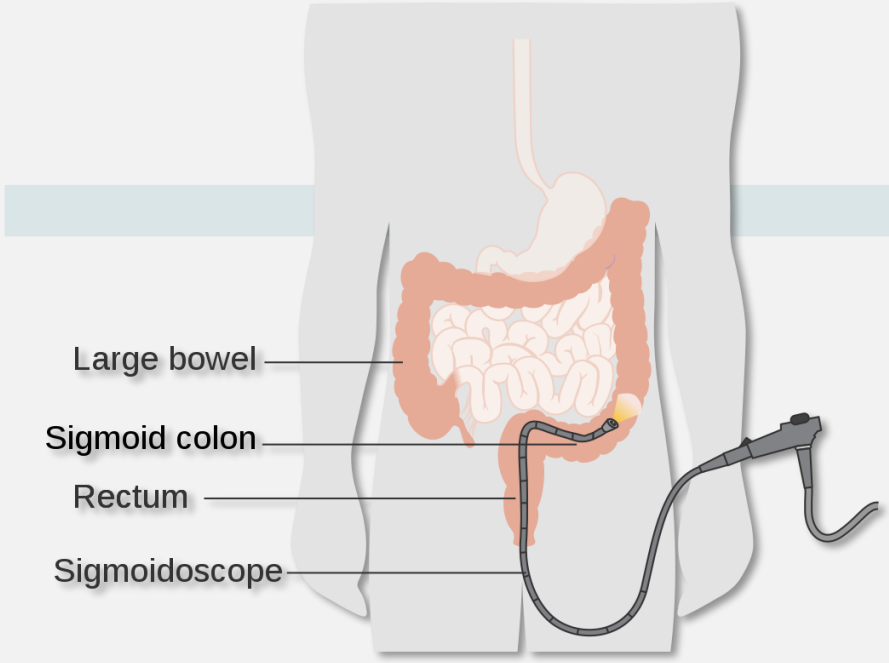
‘Targeted Hyperthermia Therapy (“THT”) Will Use Current Technology to Apply Infrared (“IR”) Light to Nanorod-Saturated Tumors

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 tumor

Sona’s light device applied to tumor saturated with Sona nanorods

Shrinking tumors from the inside-out

THT's 'Hyperthermia' Approach is Designed to Kill Cancer Cells While Not Harming Healthy Tissue

Steak As An Analogy For Human Tissue

Current Approach:
"ABLATION"
(> 55°C)

Medium-well

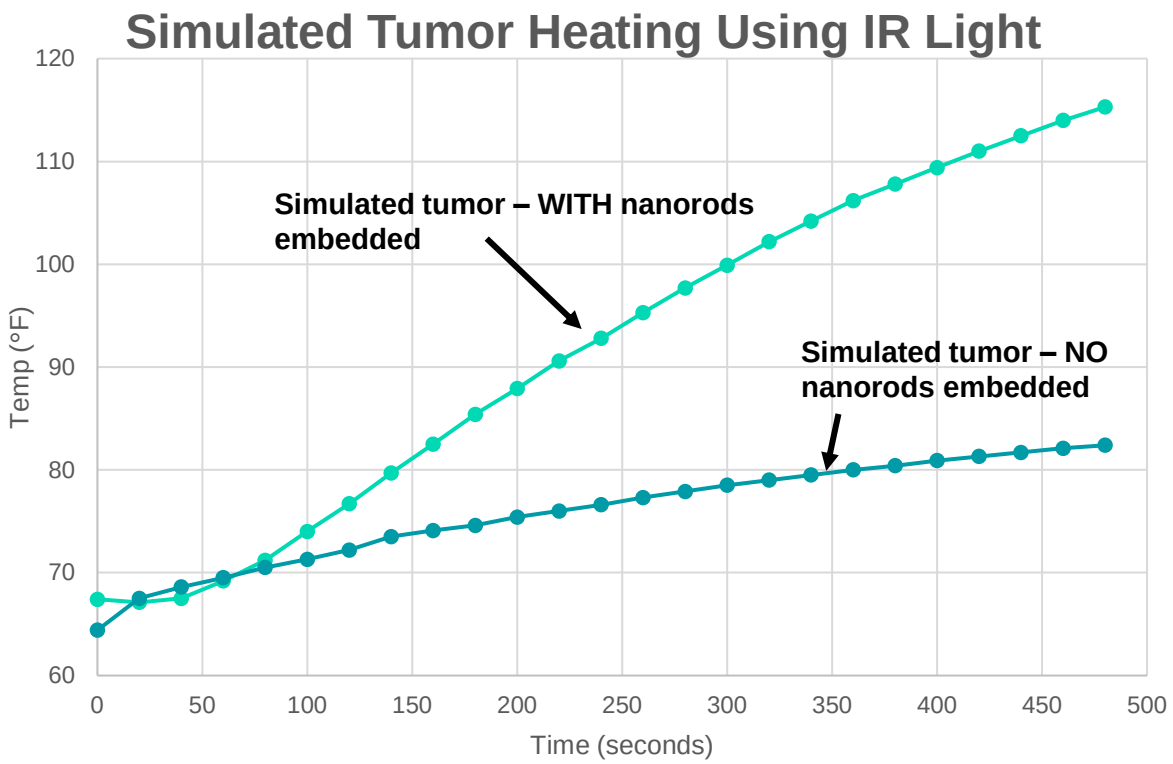
Ablation 'cooks' healthy tissue

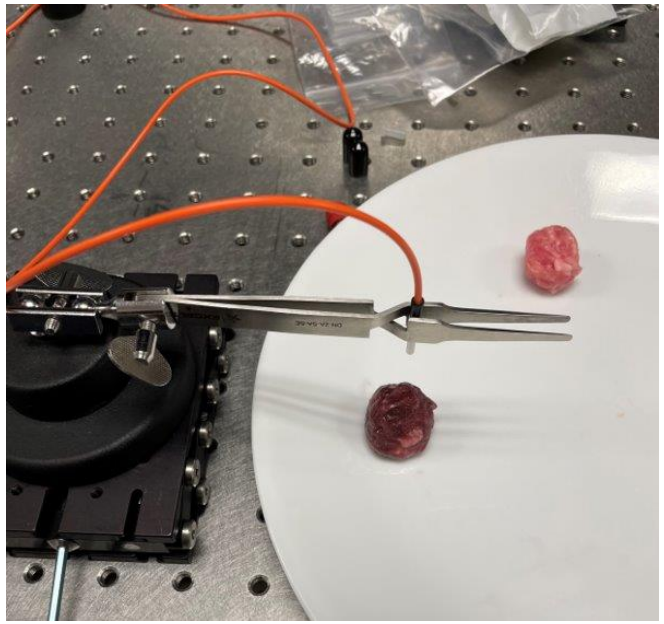
Sona's THT Approach:
"HYPERTHERMIA"
(~44°C)

Blue Rare

Hyperthermia leaves healthy tissue remains 'uncooked'

Gold Nanorods are Highly Efficient at Converting Harmless IR Light Energy into Heat Which Can Be Used to Kill Cancer Cells

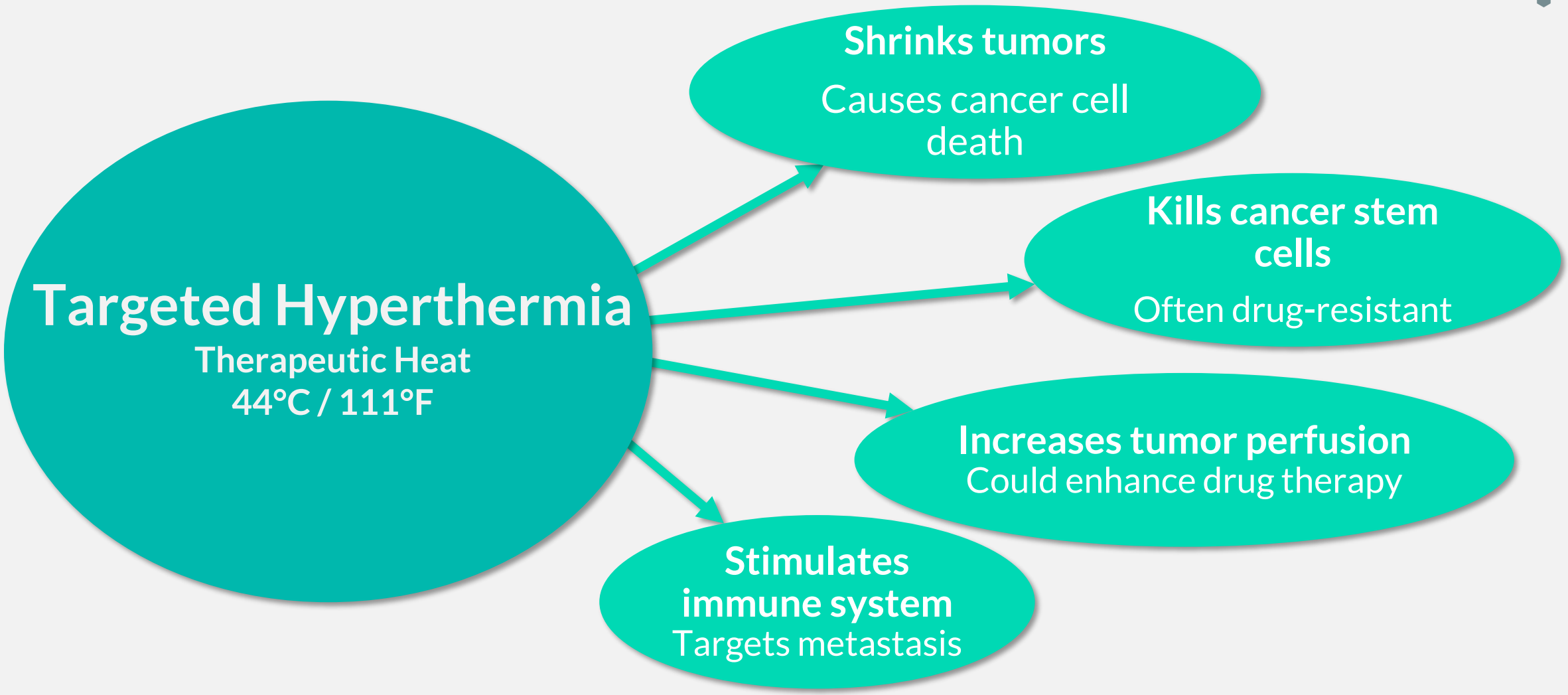




An IR Light Shining on a Simulated Tumor Saturated with Nanorods

Simulated tumor reaches 'hyperthermia' (i.e., ~111°F) with nanorods

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

	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

Start with rectal cancer, but then extend to other cancers

The Risks of the Commercialization of THT May Be More Operational than Science Related

Previously Done/Approved:

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

Sona To Do:

1. Deliver infrared light device that can monitor temperature in real time
2. Preclinical studies to demonstrate safety and efficacy
3. Preclinical studies to determine optimal dosage of GNRs
4. Preclinical studies to determine optimal treatment duration
5. Develop intellectual property protection

Sona is leveraging significant prior third party research

Compelling Prospective Market and Potential to Save Thousands of Lives Annually

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

*USA data only

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:

Innovative Efficacy Study Secured With Medical School Laboratory

Goals:

- Evaluate the efficacy of Sona's Targeted Hyperthermia Therapy ("THT") technology in colorectal, breast, and melanoma tumor murine models in mice
- Assess ability to combine with immunology to facilitate systemic immune responses

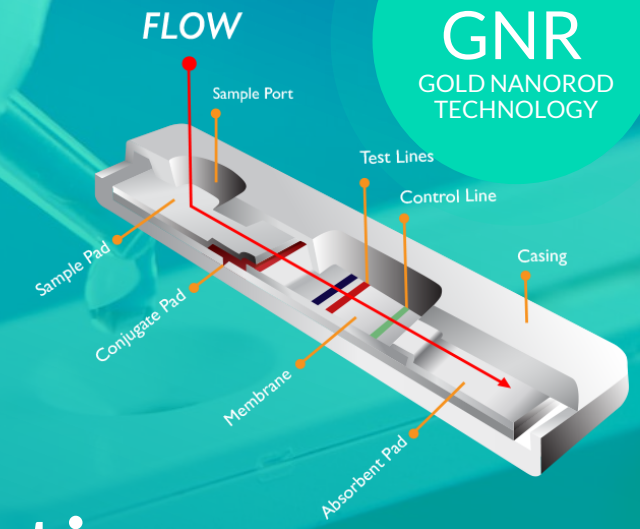
The study posits that the combined utilization of Sona's gold nanorods via its Targeted Hyperthermia Therapy, alongside precise immune modulation, will result in elevated immune activation and anti-tumor responses within the mouse models of colorectal cancer, breast cancer, and melanoma.

Principal Investigator:
Dr. Carman Giacomantonio, *MD MSc FRCSC, Professor, Division of General and Gastrointestinal Surgery*

Dr. Giacomantonio's research focuses on the impact of surgical procedures, specifically biopsies on the tumor microenvironment and subsequent development of cancer metastases, and ways to mitigate this risk through targeted therapies. His lab is also studying the mechanism of action of interleukin-2 therapy in the treatment of melanoma and other cancers.

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 (e.g. 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 ("bTB") Test Prototype

17.7m
Annual bTB testing events in UK

"Bovine TB detection methods are often labor-intensive, and require further confirmatory tests, increasing costs and processing times needed for diagnosis. Using a rapid screening assay could help minimise that burden and assist with the goal of reducing and eradicating bovine TB infections in the UK. The initial results of the Sona rapid screening assay are very promising and if proven to be successful in the field, could be an excellent addition of the toolkit that vets and farmers can use in the fight against bovine TB".

Dr. Ben Swift, a lecturer in antimicrobial resistance at the Royal Veterinary College in the UK

	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[1] • Post-mortem examination and tissue culture, can take up to 12 weeks[2]	✓ **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 may be destroyed Estimated costs of bTB control in UK to top £1 billion over the next decade[3]	✓ Rapid screening of individual animals, no need to destroy healthy cattle
Accuracy	✗ Skin test cannot distinguish between infected and vaccinated cattle	✓ Next step of test development is to add ability to discern TB positive from TB inoculated cattle

Preliminary trial results correctly identified 24/30 positives and 29/30 negatives

Next Steps

- Validate clinical sample results
- Clinical trials

1. Agriculture and Horticulture Development Board 2020
2. Ontario Ministry of Agriculture, Food and Rural Affairs
3. National Farmers' Union (NFU) of England and Wales

Near-Term Milestones Anticipated

1. Panel of leading EXCITE International expert advisors from top U.S. institutions and 'payors' to provide guidance
   - To ensure that Sona's product development is in line with what surgical oncologists are looking for, prior to FDA submission
2. Selection of pre-clinical study partner, plans and initial safety study results
   - Utilizing pre-existing research & advisory groups to conduct studies in the most cost-effective ways
3. FDA pre-submission meeting
   - Anticipating to hear back from FDA in the near-term
4. Gold nanorod manufacturing partner selection
5. Dalhousie Medical School study results
   - Expanding studies to measure Sona's technology effectiveness in mice for melanoma, colorectal and breast cancer
6. Confirmation of potential first-in-human overseas studies
   - Company exploring opportunities to accelerate human efficacy studies, once safety established

October 2023 Financing:

As of Oct 16, 2023

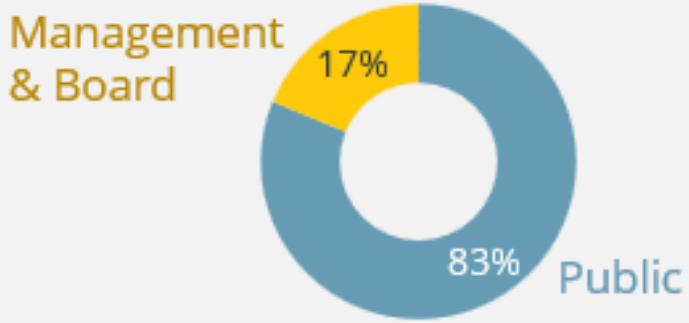
Market Capitalization

Share Price	C$0.21
Market Cap.	C$20M
52 Week High/Low	$0.315/$0.075

Capital Structure

Issued & Outstanding	95.1M
Options	5.5M
Warrants	0.8M

Ownership



Private placement Equity Offering

Offering Details:

- Private placement of 3,750,000 Units
- Units consists of one common share and one-half warrant
- Warrant exercise price is $0.30 for 24 months

Offering Amount: $750,000

Offering price: $0.20 per Unit

Offering Conditions: Subscribers must be “accredited investors” or family, friends or business associates (as defined in National Instrument 45-106 Prospectus and Registration Exemptions).

info@sonanano.com

Purdy's Wharf Tower II
Suite 2001 – 1969 Upper Water Street
Halifax, Nova Scotia, Canada B3J 3R7

+1 902 442 0653

CSE: **SONA** | OTCQB: **SNANF**

Thank you

David Regan

david@sonanano.com

+1 902 448 1416

APPENDIX

Appendix A
Additional Sources in document

1. Mousavi SM, Hashemi SA, Mazraedoost S, Yousefi K, Gholami A, Behbudi G, Ramakrishna S, Omidifar N, Alizadeh A, Chiang WH. Multifunctional Gold Nanorod for Therapeutic Applications and Pharmaceutical Delivery Considering Cellular Metabolic Responses, Oxidative Stress and Cellular Longevity. Nanomaterials (Basel). 2021 Jul 20;11(7):1868. doi: 10.3390/nano11071868. PMID: 34361251; PMCID: PMC8308363..
2. Sona Gold Nanorods: The Ideal Nanoparticle for Photothermal Cancer Therapies? - Exploring the Context for Sona Nanotech's Toxin-free, Bio-compatible Gold Nanorods
3. Sharma S, Zapatero-Rodríguez J, Estrela P, O'Kennedy R. Point-of-Care Diagnostics in Low Resource Settings: Present Status and Future Role of Microfluidics. Biosensors (Basel). 2015 Aug 13;5(3):577-601. doi: 10.3390/bios5030577. PMID: 26287254; PMCID: PMC4600173.
4. Popp, Mary; Oubou, Imane; Shepherd, Colin; Nager, Zachary; Anderson, Courtney; Pagliaro, Len; 2014/08/21; Photothermal Therapy Using Gold Nanorods and Near-Infrared Light in a Murine Melanoma Model Increases Survival and Decreases Tumor Volume; VL - 2014; DO 10.1155/2014/450670; Journal of Nanomaterials
5. Gold Nanorods for Localized Treatment of Solid Tumors, NCL201902A, prepared by Nanocharacterization Laboratory. Available on request.
6. Cheng Y, Weng S, Yu L, Zhu N, Yang M, Yuan Y. The Role of Hyperthermia in the Multidisciplinary Treatment of Malignant Tumors. Integr Cancer Ther. 2019 Jan-Dec;18:1534735419876345. doi: 10.1177/1534735419876345. PMID: 31522574; PMCID: PMC7242805.
7. Hyder AA, Wunderlich CA, Puvanachandra P, Gururaj G, Kobusingye OC. The impact of traumatic brain injuries: a global perspective. NeuroRehabilitation. 2007;22(5):341-53. PMID: 18162698
8. Mersine A. Bryan, Ali Rowhani-Rahbar, R. Dawn Comstock, Frederick Rivara, on behalf of the Seattle Sports Concussion Research Collaborative; Sports- and Recreation-Related Concussions in US Youth. *Pediatrics* July 2016; 138 (1): e20154635. 10.1542/peds.2015-4635
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. Bovine TB summary for England over the 12 months up to September 2022
11. 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
12. 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)
13. Giniatullina, A., Boorsma, M., Mulder, G.-J., van Deventer, S.: Building for big pharma. Nat Biotechnol 31, 284–287 (2013)

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