



sona

•nanotech•

**RAPID DIAGNOSTIC TEST DEVELOPER WITH UNIQUE
NANOPARTICLE TECHNOLOGY**

WWW.SONANANO.COM

CSE:SONA | OTC:SNANF

November 2021

FORWARD-LOOKING STATEMENTS

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 anticipated benefits of Sona's GNR technology; anticipated growth in the global point-of-care (PoC) diagnostics market; the intended pursuit of health regulatory approvals in Europe and North America; intended next steps in development of a saliva-based test; anticipated demand for saliva-based test from large employers; anticipated continuing need for COVID-19 rapid tests; potential near-term drivers of Sona's business; and longer-term applications of Sona's technology.

Actual results may differ materially from those set forth in this presentation due to risks and uncertainties affecting the Company and its products. These forward-looking statements involve known and unknown risks and uncertainties and those risks and uncertainties include, but are not limited to the Company's ability to develop a rapid, antigen-based COVID-19 test through the successful and timely completion of evaluation studies; anticipated benefits of Sona's technology may not be realized; required regulatory approvals may not be obtained in a timely manner or at all; market opportunities may not develop as expected, and demand for the Company's tests may be adversely affected by introduction or success of competing products, or availability of COVID-19 vaccines or treatments reducing demand for testing; and, if development of the Company's test is successful, the commercialization of its rapid, antigen-based COVID-19 test, the ability of the Company secure manufacturing and distribution for its rapid, antigen-based COVID-19 test quickly and at scale and other risks detailed from time to time in the Company'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 the Company'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.

COMPANY HIGHLIGHTS

- ▶ **Patent-pending biocompatible gold nanorod (GNR) platform technology** uniquely does not rely on the use of toxic CTAB
- ▶ **Current Rapid Test Development Portfolio:** saliva-based rapid antigen test for Covid-19; rapid concussion screening test; bovine TB screening test
- ▶ **Research focus** into the use of Sona's biocompatible GNRs for medical applications which could have profound impact on drug delivery, photothermal therapy, and cell imaging
- ▶ **Expanding service offering to include Contract Development** to provide 3rd party development services to clients looking for testing solutions

SONA AT A GLANCE

Sona Nanotech is a **nanotechnology life sciences** company that has developed multiple proprietary methods for the manufacture of biocompatible **gold nanorods (GNR's)**



Nanotechnology: the use of matter on an atomic, molecular, and supramolecular scale
Gold Nanorods: gold nanoparticles that are elongated and can provide for more sensitive detection in rapid diagnostic tests

Sona's proprietary gold nanorod (GNR) particles do not use toxic CTAB (cetyltrimethylammonium), eliminating the associated toxicity risks in biologically-based rapid tests and medical applications.

Sona's gold nanotechnologies may have the potential to be used in a diverse variety of industries ranging from the diagnostics industry to a host of medical applications, including targeted drug delivery, cell imaging, and photothermal therapy.



SONA'S STRATEGIC FOCUS

The company is currently focused on applying its know-how toward the development of **rapid diagnostic solutions**. However, because they are CTAB-free and therefore biocompatible, Sona's gold nanorods may be ideal for **'in-vivo' medical** applications with the long-term potential for profound health benefits in the future.

Diagnostics Focus

- Rapid Diagnostic Tests (RDTs)
 - Covid-19 (Saliva)
 - TBI (Concussion)
 - Bovine TB
- 3rd Party Test Development Services
- Further Proprietary Testing Solutions

Research Focus

Drug Delivery

Use as a carrier device to deliver payload(s) of drug molecules to cells, tissue, or organs, where and when desired.

Cell Imaging

Produces higher image quality, yields both qualitative and quantitative data, and can be more intuitive for health care practitioners to interpret.

Photothermal Cancer Therapy

Nanorods conjugated with tumor-targeting motifs and injected, allowing for tumors to be irradiated with near infrared light, preserving the surrounding cells.

Photothermal Cosmetic Therapy

Eliminating the need for invasive methods of fat removal, nanorods can be conjugated to target fat cells in the body, irradiating them using a near infrared light.



Diagnostics Focus

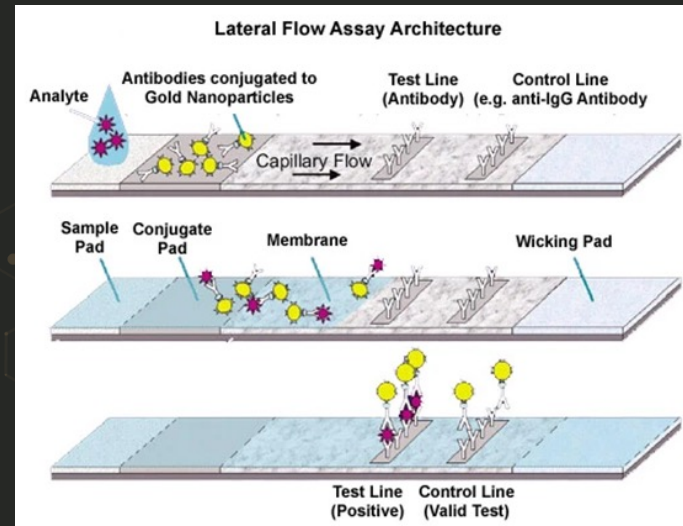
SONA'S GNR TECHNOLOGY FOR RAPID TESTS

Lateral Flow Assays (LFA's) are simple, fast, and low-cost diagnostic or screening tools which can provide rapid results (i.e. at-home pregnancy tests).

The technology for most LFA kits is based on a staged transport of a bodily fluid (saliva, urine, or blood) in which the fluid is wicked along to the site of a bio-chemical reaction indicator. The analyte is then absorbed and reacts, and an area of the strip changes color in comparison to a control strip.

GNRs bring a host of novel optical properties, creating new possibilities such as multiplexing for both qualitative and quantitative analysis of multiple analytes, and Sona can use its proprietary CTAB-free GNR technology in LFA's with a view to increasing sensitivity while eliminating the associated toxicity risks.

Patents have been filed for Australia, Canada, China, Europe, India, Japan, and US based on the International (PCT) Patent Application.



Source: <https://www.cytodiagnostics.com/pages/lateral-flow-assay>

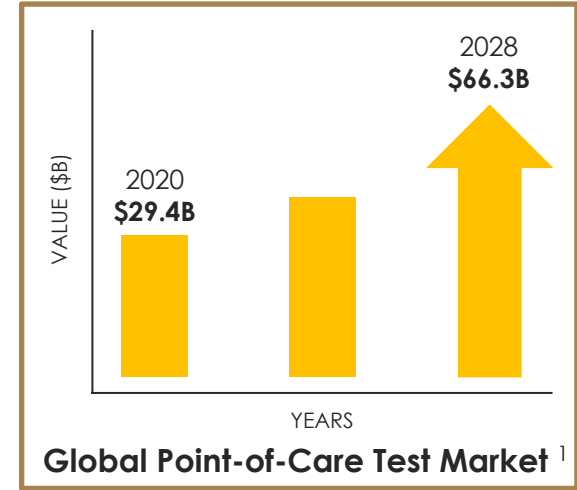
THE GLOBAL RAPID DIAGNOSTIC MARKET

Rapid Diagnostic Tests (RDT's) are medical screening or diagnostic tests that are mobile, quick and easy to perform, and provide rapid results.

The global PoC diagnostics market is **expected to grow to USD \$66.3 Billion with 10.7% CAGR** over the next seven years.¹

Growth in the segment is propelled by a rise in demand for more affordable and readily available testing products for infectious diseases (CAGR of 13.2%), while technology advancements enabling a shift from laboratory equipment to rapid PoC testing, combined with an increase in demand from patients for at home solutions for monitoring health metrics (CAGR of 11.2%) is leading the shift toward growth in this market.

LFA's are the most widely used and recognized rapid diagnostic test. The Coronavirus pandemic has resulted in a significant increase in global lateral flow assay test manufacturing, with multiple large players announcing capacity increases.



All figures in USD unless otherwise stated.

Note 1) https://www.reportsanddata.com/report-detail/point-of-care-poc-diagnostics-market#utm_source=globenewswire&utm_medium=referral&utm_campaign=ravi18SEP2019&utm_content=DP

SONA'S RAPID SALIVA COVID-19 ANTIGEN TEST

Sona has developed a rapid COVID-19 antigen test that uses saliva instead of nasal pharyngeal samples.

Benefits:

- Less invasive sample collection means safer and simpler sample collection and greater comfort
- Leverages existing Sona lateral flow cassette with specific biologics, buffer, and collection device
- Self-sampling can reduce burden on healthcare professionals

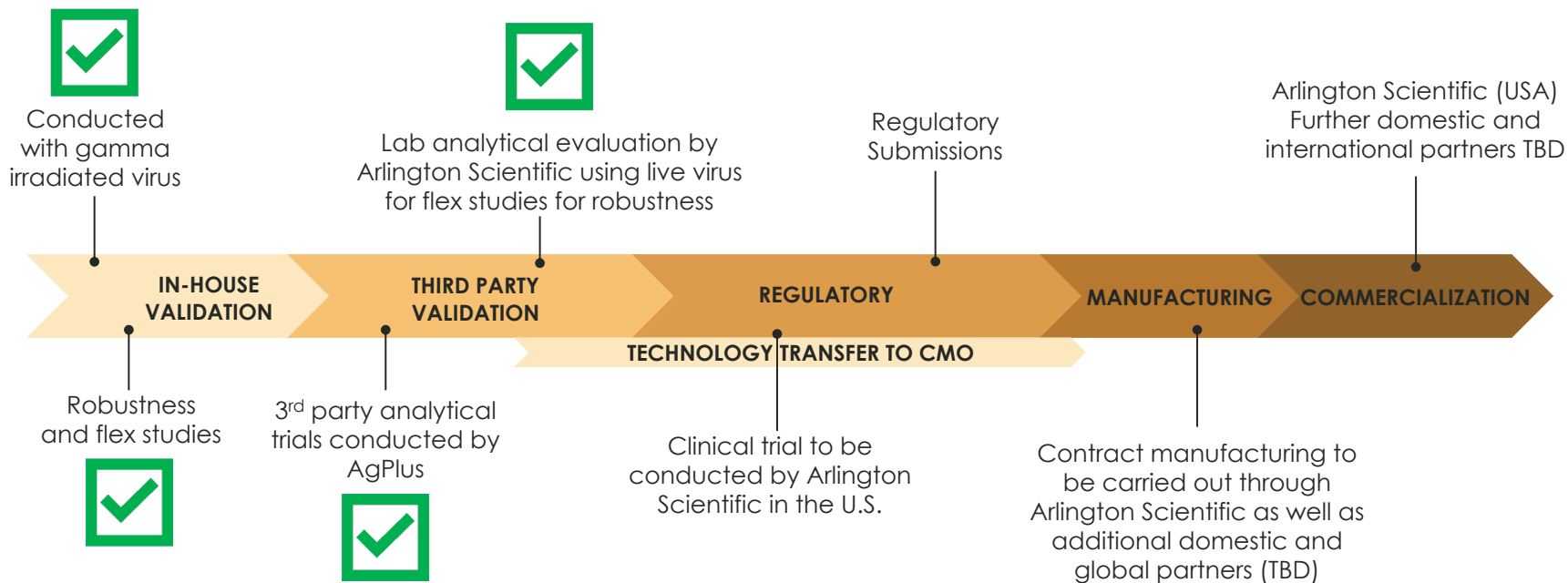
Arlington Scientific Inc. ("ASI") Partnership

- A leading U.S. in vitro diagnostic device developer and manufacturer
- Maintains agreements with five major medical device distributors
- Profit sharing deal encompassing by U.S. and international markets
- Sona to license its technology and provide biologics, while ASI manages regulatory approvals, manufacturing and distribution, in the U.S.



No Saliva-based, Rapid Antigen Test Has Yet Been FDA-approved

SONA'S SALIVA TEST APPROACH TO MARKET



Sona will work with Arlington Scientific to bring the test through clinical trial and FDA approval, followed by commercialization efforts.

CONCUSSION SCREENING TEST



Overview

Sona is applying its GNR technology to develop a rapid concussion screening test.

The test is intended to detect the presence of GFAP (Glial Fibrillary Acidic Protein), a biological marker associated with concussions, typically released into the blood stream **within minutes of an impact to the head.**

“Our goal is to develop a test that will provide immediate screening at the scene of a possible concussion, that is both quicker and more definitive than the current subjective cognitive tests relied upon to assess for a concussion”

- Darren Rowles, CSO of Sona Nanotech

An estimated **10 million concussions occur each year¹**, with 2.9 million/year in the US alone, including 837,000 incidents involving children². Sona's concussion research is ready to enter the prototype development stage, however, industry standard timelines for a test to reach commercialization is estimated at 12-24 months, subject to regulatory approvals.

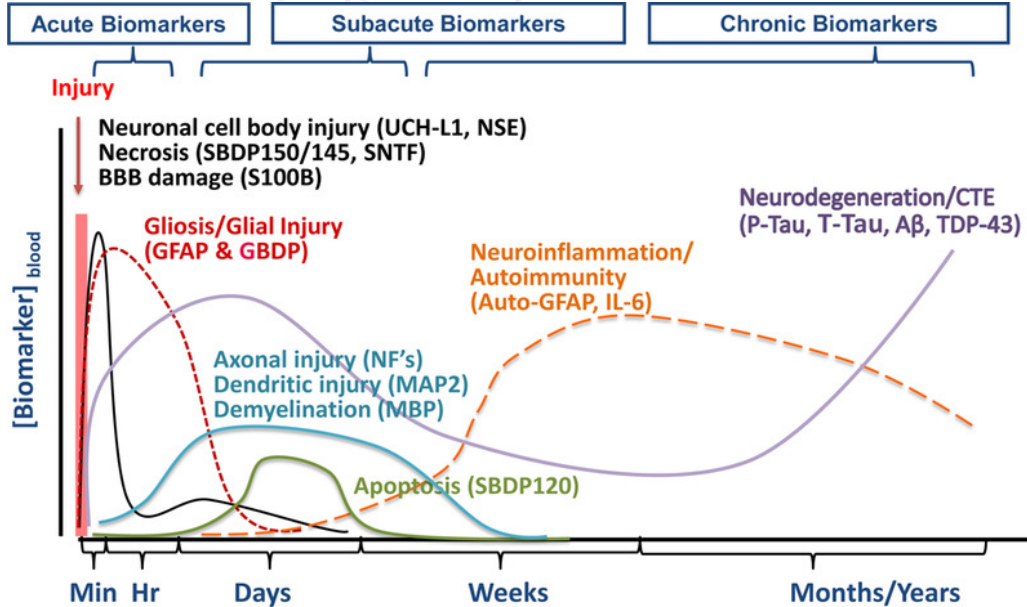
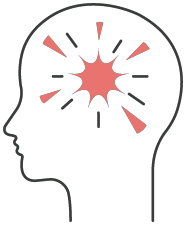
No Readerless, Rapid Concussion Test is Currently Commercially Available

Notes: 1) Hyder A.A. et al. The impact of traumatic brain injuries: A global perspective. NeuroRehabilitation. 2007;22(5):341–353

2) Centers for Disease Control and Prevention (2019). Surveillance Report of Traumatic Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths—United States, 2014. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

CONCUSSION SCREENING TEST

Concussion Biomarkers

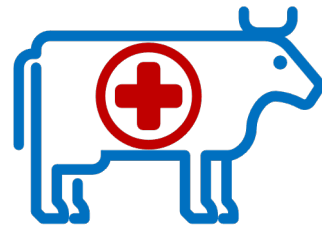


- Prototype is designed to detect Glial Fibrillary Acidic Protein (GFAP) which is the **initial marker** produced indicating damage to the brain.
- GFAP levels spike within minutes of a concussion and remain at significant levels for several hours.
- Study conducted by Abbott and published in Lancet neurology shows that GFAP alone is a good marker for mTBI⁽¹⁾

Biomarkers Signal a Potential Concussion

Notes: 1) <https://abbott.mediaroom.com/2019-08-26-New-Study-Finds-Abbotts-Blood-Test-Technology-Could-Help-Detect-Brain-Injury-Quickly-Even-if-CT-Scan-is-Normal>

BOVINE TUBERCULOSIS TEST



Overview

Working with a consortium of companies in the UK, Sona is currently developing a rapid screening tool to help farmers combat the threat of Bovine Tuberculosis (bTB) in herds. Supported through the help of the National Research Council of Canada Industrial Research Assistance Program (NRC IRAP), Sona is confident its GNRs can aid in early detection, not only reducing cost to farmers but also **saving lives**.

“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

Currently, a diagnosis is typically made either through a skin test, with a turnaround of 48-72 hours¹, or through post-mortem examination and tissue culture, which can take up to **12 weeks**². Once bTB is confirmed, all infected and exposed animals in a herd are typically destroyed.

The UK government expects costs to top **£1 billion**³ over the next decade if no new action is taken.

No cost-effective early detection methods currently available

Notes: 1. <https://tbhub.co.uk/tb-testing-cattle/skin-testing/tuberculin-skin-testing/>; 2. <http://www.ema.gov.au/english/livestock/vet/facts/bovine-tuberculosis.htm>; 3. <https://www.tbfreeengland.co.uk/faqs/how-much-does-btb-cost/>



Research Focus

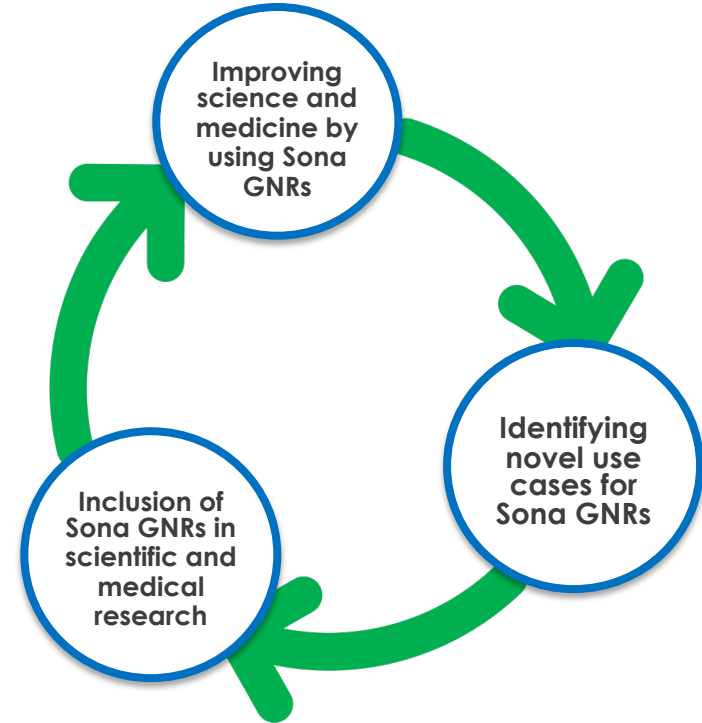
Research Focus Overview

By focusing on creating working relationships with leading scientists and researchers, Sona aims to **identify and validate novel areas of application for its GNR technology**.

This could lead to improvements in current scientific and medical applications, which in turn helps improve adoption of GNRs in research activities for potentially **further medical and scientific advancements**.

Key areas of focus include the use of Sona GNRs to improve applications in:

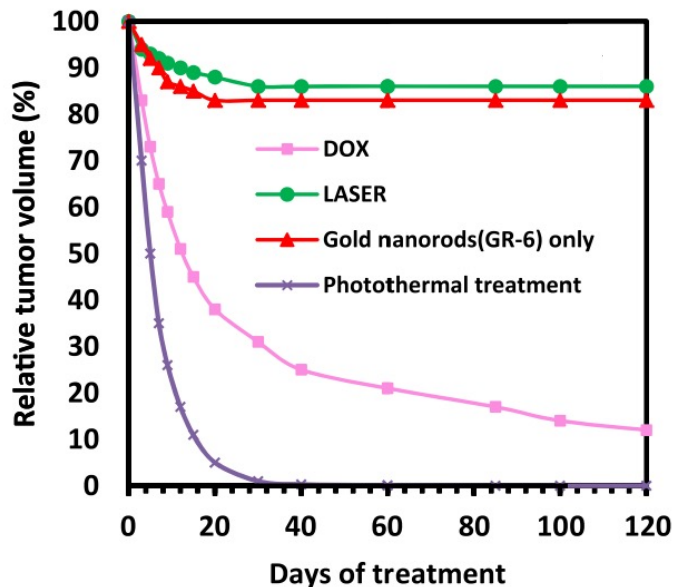
- Drug Delivery
- Cell Imaging
- Photothermal Therapies for:
 - Cancer Treatment
 - Cosmetic Treatment



Key partnerships in research can lead to improvements in medical and scientific applications which can then lead to further adoption

POTENTIAL GNR MEDICAL APPLICATION

Tumor Elimination Through Photothermal Ablation⁽¹⁾



- A 3rd party study using GNR's **eliminated** tumors in mice in 4 weeks⁽¹⁾
 - GNR's injected in tumors and heated with near-IR laser
- **Key issue:**
 - While using gold 'in vivo' is understood to be safe, the long-term effects of GNRs treated with toxic CTAB that are left circulating 'in vivo' applications are unknown.
- **Sona advantage?**
 - In-house testing to date has shown Sona's proprietary CTAB-free GNRs have no toxicity, though significant further testing would be required to validate and confirm their safe use in humans.

A new journal study showed GNRs *eliminated* tumors in mice⁽¹⁾

Source: *Facile approach for developing gold nanorods with various aspect ratios for an efficient photothermal treatment of cancer*, L.A.M. Al-Sagheer, et al in Volume 618, 5 June 2021 Colloids and Surfaces A: Physicochemical and Engineering Aspects

Note: 1) The gold nanorods used in this third-party study were neither manufactured by Sona nor was Sona's proprietary CTAB-free, biofriendly technology used with them.

GNR RESEARCH APPLICATIONS

PARTNERS IN RESEARCH

Sona is aiming to create key strategic partnerships within the scientific and medical research communities, to **advance the use of its patent-pending GNR technology** in groundbreaking and essential research projects.

This not only works to further prove Sona's GNR technology as an industry leader, but also helps **advance initiatives in important scientific and medical fields**, by offering them a safer alternative to nanorods created with use of toxic materials.



Key partnerships in research can help advance the technology and important potential medical applications

INVESTMENT HIGHLIGHTS

- Owner of patent-pending biocompatible gold nanorod (GNR) platform technology
- Successfully developed rapid test for Covid-19
- Multiple near-term revenue paths:** proprietary tests, GNR product catalogue, contract test development and conjugation services
- Active development and research program** to increase awareness and adoption of Sona GNRs in the scientific and medical research community
- Potential future applications projected to add significant long-term value:** drug delivery, cell imaging, and cancer and cosmetic photothermal therapies

MANAGEMENT & ADVISORS



DAVID REGAN
Chief Executive Officer

- Business and commercial operations oversight
- Strategy consultant and corporate director
- 15 years public company experience in strategy and corporate development



DARREN ROWLES
President & Chief Scientific Officer

- 17 years experience with nanoparticle diagnostics
- Grew nanoparticle sales from \$200K to \$5.5M with ~\$4M profit
- Intl. advisory board member for multiple university collaboration projects and scientific conferences



ROBERT RANDALL, CPA
Chief Financial Officer

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



DR. KULBIR SINGH
Co-Founder & Head of R&D

- Responsible for new product development
- Named author on 35 research papers and 2 patents



DR. CATHERINE J. MURPHY

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



DR. XU ZHANG (Dr. Shine)

Dr. Shine is the industrial research chair in applied nanotechnology at Cape Breton University, NS and a chemist with extensive experience in immunoassay and cancer research.



DR. GERRY MARANGONI

Gerry is one of the 3 founders of Sona and is the tenured professor of chemistry at St. Francis Xavier University in Antigonish, Nova Scotia, Canada



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

BOARD OF DIRECTORS

**DR. MICHAEL GROSS, MBBS,
FRSC, ICD.D**

Director

- Professor of Orthopaedic surgery, medical director of the Regional Tissue Bank
- Director of Linear Gold (sold to Brigus Gold)
- Current director of Fortune Bay, Chair Boomersplus

MARK LIEVONEN, MBA, FCPA

Director

- Former President of Sanofi Pasteur Limited, the Canadian vaccine division of Sanofi
- Co-Chair of the Government of Canada's COVID-19 Vaccine Task Force
- Director of OncoQuest Pharmaceuticals Inc., Biome Grow Inc., and the Gairdner Foundation

ROBERT MCKAY

Director

- Accomplished entrepreneur in the hospitality, franchising and real estate industries
- President a private real estate development company with holdings in Canada and Mexico

JAMES MEGAN

Director

- 25 years of experience in venture capital, capital markets and marketing
- Managing Director of Numus Financial which has completed over \$1B in transactions
- Director of Antler Gold Inc. and Battery Road Capital Corp.

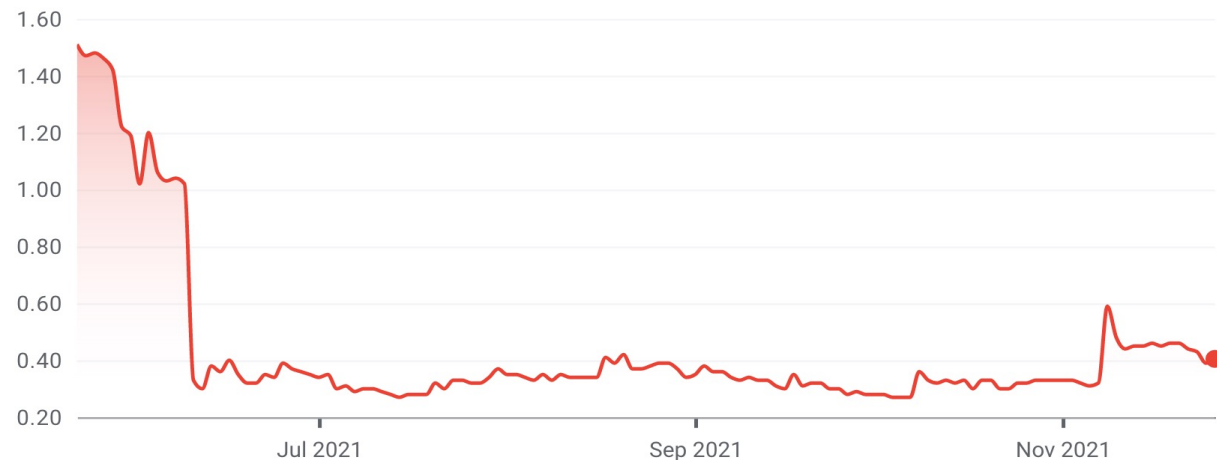
DAN WHITTAKER, MBA, CFA

Chair

- Financial executive with more than 30 years' experience in the investment industry
- Chairman, President and CEO of Antler Gold Inc. (TSXV:ANTL)
- Co-founder of several publicly listed junior resource companies

STOCK INFORMATION

CSE:SONA | OTC:SNANF



U.S. INSTITUTIONAL RESEARCH COVERAGE

Maxim Group | Jason McCarthy, Ph.D.

MARKET CAPITALIZATION

Shares Outstanding - basic:	65M
Diluted for 'in-the-money' options and warrants:	67M
Insider Ownership:	13.46%
Market Capitalization:	CAD \$26M
Six Month High and Low:	\$1.54/\$0.23
Previous Quarter Average Daily Volume:	178,566

* As of Nov 25, 2021

Note: (1) Shares outstanding diluted for 'in-the-money' but not necessarily vested, options and warrants

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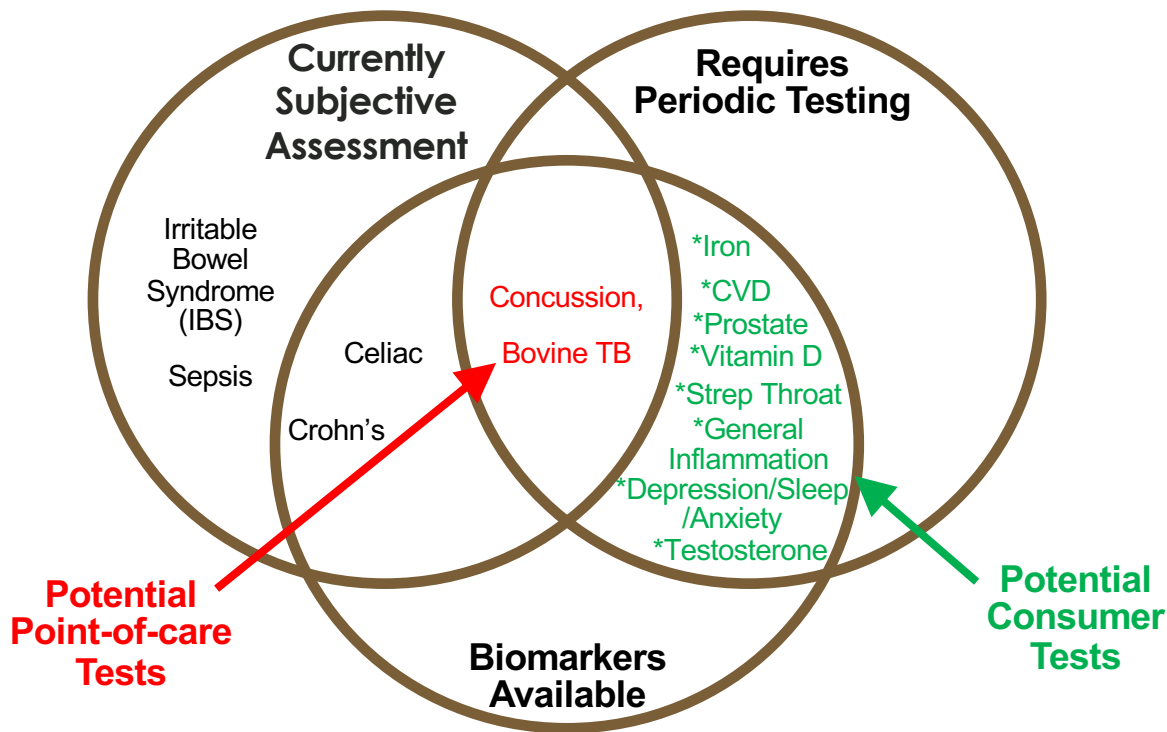
Investor Relations

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Appendix

FUTURE RAPID TEST DEVELOPMENT SCREEN



Selected Considerations:

- Commercial
 - Market size
 - Competitors
- Regulatory hurdles
- Economics
 - Biological materials
 - Labour requirements
 - Timeframes
- Future opportunities:
 - Tests for which biomarkers do not yet exist or are unproven

Sona Will Focus on Two Areas for Future Rapid Tests: Concussion and Bovine TB