



# Destroying Cancer with Light-Activated Compounds

May 18, 2023

TSXV:TLT | OTCQB:TLTFF

# Forward-Looking Statements

Forward-Looking Statements (“**FLS**”) contained in this presentation deal with the future revenue potential, business opportunities and/or strategic initiatives of Theralase® Technologies Inc. (“**Theralase**” or the “**Company**”); including, information, analyses and/or projections as to future corporate developments that reflect the current expectations of the Company’s management.

Such FLS, refer to the Company’s ongoing technologically complex preclinical, clinical and/or medical device research and development efforts; including, but not limited to assumptions about Theralase®’s: business operations, continued performance on a basis consistent with prior years; ability to access financing from time to time on favourable terms, or at all; ability to retain executive management, senior management, key personnel and/or key consultants or the non-disruptive replacement of them on reasonable terms; reasonably stable operating and/or general administrative expenses; future success of current or proposed research and development initiatives, achievement of commercialization activities and/or milestones; market success of its products over its competition; successful and timely achievement of regulatory and/or certification approvals; uncontested protection over its intellectual property in the markets in which it does business; market acceptance and/or revenue generation of its products; operation in stable economic environments (Canada, the United States and internationally); ability to access currency, exchange rates, interest rates and/or commodity prices at reasonable rates.

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\*KEYTRUDA® is a registered trademark of Merck & Co. Inc.



## Scientific Research

Patented light-activated Photo Dynamic Compounds ("PDCs") researched and developed over 19 years

Optimized to destroy cancer, bacteria and viruses<sup>1</sup>



## Pipeline

Primary  
Non-Muscle Invasive Bladder Cancer ("NMIBC")<sup>2</sup>

Secondary  
Non-Small Cell Lung Cancer ("NSCLC")<sup>3</sup>

Glioblastoma Multiforme ("GBM")<sup>4</sup>

Vaccine for various enveloped viruses<sup>5</sup>



## Clinical Stage

Interim clinical data in a Phase II NMIBC registration clinical study demonstrating a 65% Complete Response ("CR") for the primary objective, 30% CR duration for the secondary objective and very high safety profile for the tertiary objective (n=52 patients)<sup>2,6</sup>

FDA Fast Track Designation Granted<sup>7</sup>



## Management Team

Extensive preclinical and clinical research, pharmaceutical drug, laser design, manufacturing and commercialization experience<sup>1</sup>

Partnered with leading scientific and clinical researchers from renowned research hospitals<sup>1</sup>



## Intellectual Property

46 issued patents for PDC and laser technology in the United States, Canada and internationally<sup>1</sup>

Composition of matter patent expires in US in 2033 (Potentially 2038 with extension)

23 patents pending<sup>1</sup>

1) Annual Information Form – June 3, 2021

2) Press Release - Theralase Commences Phase II NMIBC Clinical Study – April 25, 2019

3) Press Release - Theralase® Advances Anti-Cancer Technology in Destruction of Human Lung Cancer– March 5, 2018

4) Press Release - Theralase® Demonstrates Significant Advantage in Treatment of Brain Tumours – June 11, 2018

5) Press Release - February 7, 2022 – Theralase® Demonstrates Proof-of-Concept for Canadian-Made COVID-19 Vaccine

6) Theralase® Press Release - Theralase® Provides Update on Phase II Bladder Cancer Study – May 10, 2023

7) Press Release - Theralase® Granted FDA Fast Track Designation for NMIBC Phase II Clinical Study – November 23, 2020

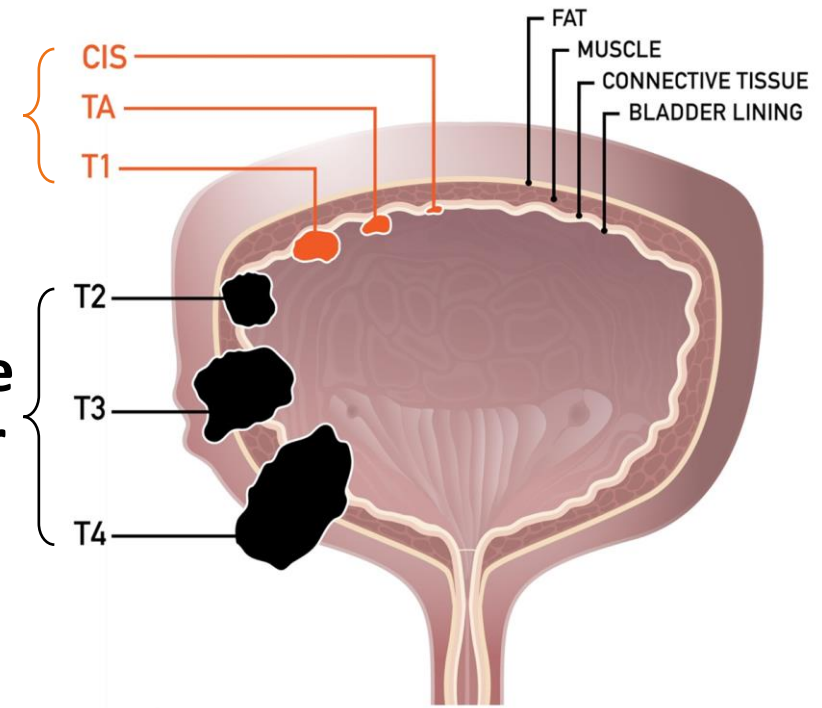
# Bladder Cancer

10<sup>th</sup> Most Common Cancer  
Worldwide

6<sup>th</sup> and 17<sup>th</sup> most common cancer  
in men and women, respectively<sup>1</sup>

**Non-Muscle  
Invasive  
Bladder Cancer  
("NMIBC")**

**Muscle Invasive  
Bladder Cancer  
("MIBC")**



Annually 573,000 new cases of bladder cancer internationally in 2020<sup>1</sup>

Annually 82,290 in US, 13,300 in Canada, 151,000 in Europe<sup>2,3</sup>

1) World Cancer Research Fund International. Bladder cancer statistics. [www.wcrf.org/cancer-trends/bladder-cancer-statistic](http://www.wcrf.org/cancer-trends/bladder-cancer-statistic)

2) National Cancer Institute. Surveillance, Epidemiology and End Results Program. Cancer Stat Facts: Bladder Cancer. <https://seer.cancer.gov/statfacts/html/urinb.html>

3) Key Statistics for Bladder Cancer – American Cancer Society (2023); Canadian Cancer Society (2022) and Bladder Cancer – European Cancer Patient Coalition (2019)

# Current Treatment Landscape

Intravesical Bacillus Calmette Guérin (“**BCG**”) is the current standard of care treatment for NMIBC

- 75% of bladder cancers are NMIBC<sup>1</sup> (5% of bladder cancers are Carcinoma In-Situ (“**CIS**”)<sup>2</sup>)
- BCG has a high initial efficacy of up to 75%<sup>2,3</sup> (25% failure rate)
- BCG is not durable<sup>4,5</sup> with approximately 50% of BCG patients recurring within 1 year<sup>6</sup> (known as BCG-Unresponsive<sup>5</sup>)
- 20 to 40% risk of progression from BCG-Unresponsive CIS to MIBC within 5 years<sup>7,8,9,10</sup>
- 50% of patients, who progress to MIBC, subsequently develop metastatic disease, resulting in death in nearly all cases
- Radical cystectomy is the current standard of care for BCG-Unresponsive CIS

**There is a critical need for effective bladder-sparing therapies for BCG-Unresponsive NMIBC<sup>11</sup>**

1) Ripoll, J., Ramos, M., Montañó, J. et al. Cancer-specific survival by stage of bladder cancer and factors collected by Mallorca Cancer Registry associated to survival. BMC Cancer 21, 676 (2021). <https://doi.org/10.1186/s12885-021-08418-yhttps://seer.cancer.gov/statfacts/html/urinb.html>(accessed 04-Dec-2019)

2) Librenjak D, Novaković ZS, Milostić K. Carcinoma in situ of urinary bladder: incidence, treatment and clinical outcomes during ten-year follow-up. Acta Clin Croat. 2012 Jun;51(2):201-7. PMID: 23115943.

3) Chang SS. AUA/SUO guideline [manuscript]. 2016 (Number shown includes patients with CIS only. Publications do not report the percentage of patients with concomitant CIS±Ta, T1)

4) Steinberg RL, et al. Bladder Cancer 2015;1:105-126

5) Nepple KG et al. J Urol. 2010 Nov; 184:1915-1919

6) Hussain MHA. J Clin Oncol. 2009;27:5680-5684

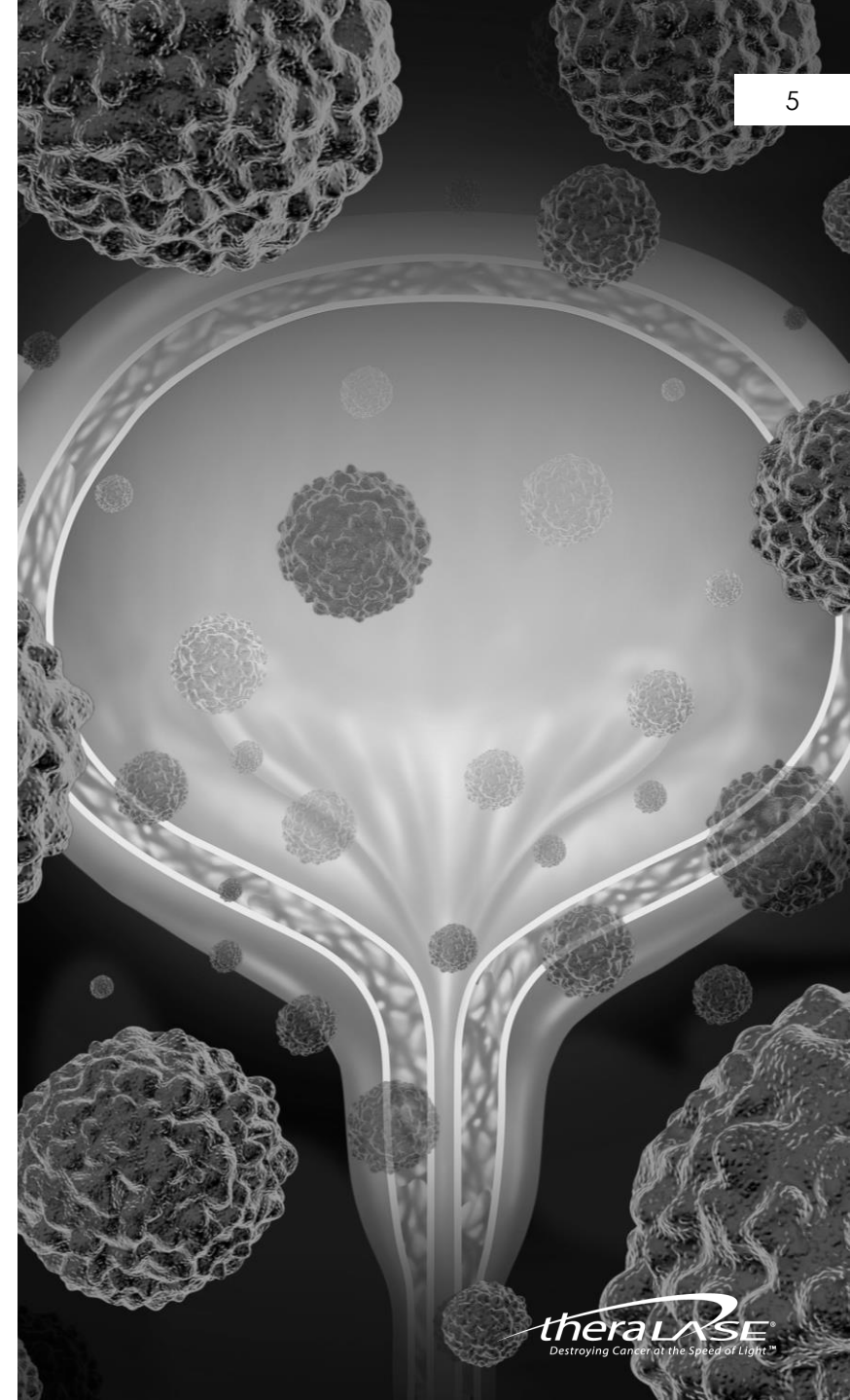
7) Chanāg SS. AUA/SUO guideline [manuscript]. 2016

8) Hussain MHA. J Clin Oncol. 2009;27:5680-5684

9) van den Bosch S. Eur Urol. 2011;60:493-500

10)Kamat AM, et al. Lancet 2016;388:2976-2810

11) Li R, Sundi D, Zhang J, Kim Y, Sylvester RJ, Spiess PE, Poch MA, Sexton WJ, Black PC, McKiernan JM, Steinberg GD, Kamat AM, Gilbert SM. Systematic Review of the Therapeutic Efficacy of Bladder-preserving Treatments for Non-muscle-invasive Bladder Cancer Following Intravesical Bacillus Calmette-Guérin. Eur Urol. 2020 Sep;78(3):387-399. doi: 10.1016/j.eururo.2020.02.012. Epub 2020 Mar 4. PMID: 32143924; PMCID: PMC7771323.



# Bladder Cancer Addressable Market

## CIS (with or without resected Ta/T1)

| Market        | Annual New Cases | CIS (5%) | Initial Failure Rate (25%) | Recurrence Rate (50%) | Total  |
|---------------|------------------|----------|----------------------------|-----------------------|--------|
| Canada        | 13,300           | 665      | 166                        | 333                   | 499    |
| United States | 82,290           | 4,115    | 1,029                      | 2,058                 | 3,089  |
| Europe        | 151,000          | 7,550    | 1,888                      | 3,775                 | 5,663  |
| Worldwide     | 573,000          | 28,650   | 7,163                      | 14,326                | 21,489 |

## Resected Ta / T1

| Market        | Annual New Cases | Ta / T1 (70%) | Initial Failure Rate (25%) | Recurrence Rate (50%) | Total   |
|---------------|------------------|---------------|----------------------------|-----------------------|---------|
| Canada        | 13,300           | 9,310         | 2,328                      | 4,655                 | 6,983   |
| United States | 82,290           | 57,603        | 14,401                     | 28,802                | 6,168   |
| Europe        | 151,000          | 15,100        | 3,775                      | 7,550                 | 43,203  |
| Worldwide     | 573,000          | 401,100       | 100,275                    | 200,550               | 300,825 |



# Market Opportunity

**\$1.1<sup>4</sup>**  
**Billion Annually**

**9,251<sup>7</sup> x \$200,000<sup>1</sup> =**  
**\$1.85 Billion Annually**

## Social Demand

Patients willing to pay between \$USD 50,000 to \$USD 150,000 per Quality Adjusted Life Year (“**QALY**”) for treatment (2 Years = \$USD 100,000 to \$USD 300,000 (Average = \$USD 200,000)<sup>1</sup>

## Innovation Demand

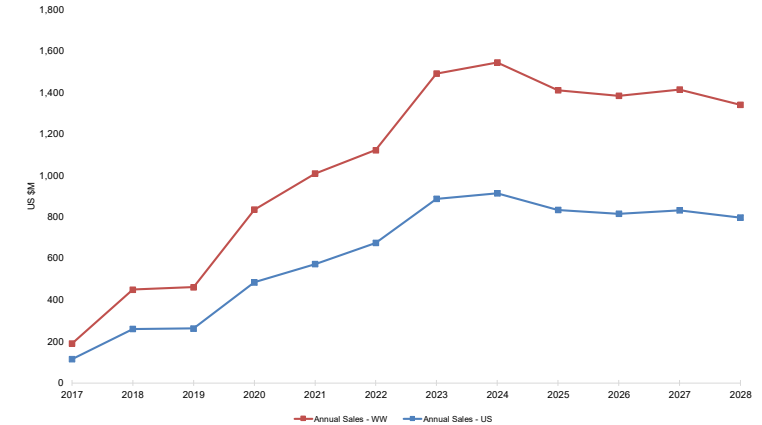
Bladder cancer patients face low Quality Of Life (“**QOL**”) after radical cystectomy<sup>2</sup>

## Financial Demand

From diagnosis to death, it costs between \$USD 89,000 to \$200,000 to treat a bladder cancer patient<sup>3</sup>

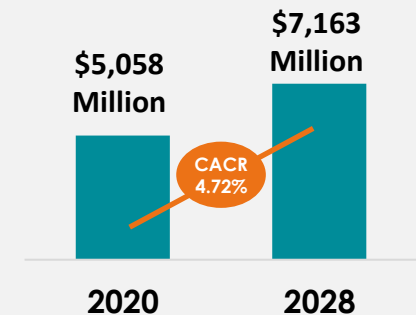
Bladder cancer has the highest lifetime treatment costs per patient of all cancers<sup>4</sup>

## KEYTRUDA Sales - Bladder Cancer<sup>8</sup>



**Market Opportunity Estimated**  
**Between \$1.1 to \$7.2 Billion Annually**

## Global Bladder Cancer Market <sup>6</sup>



1) Willingness to pay per QALY for competitor drug, Pembrolizumab. Source: Cost-effectiveness of Pembrolizumab in Second-line Advanced Bladder Cancer, July 2018

2) Tyson MD 2nd, Barocas DA. Quality of Life After Radical Cystectomy. Urol Clin North Am. 2018 May;45(2):249-256. doi: 10.1016/j.ucl.2017.12.008. Epub 2018 Feb 21. PMID: 29650140.

3) Sievert KD, Amend B, Nagele U, et al. Economic aspects of bladder cancer: what are the benefits and costs?. World J Urol. 2009;27(3):295–300. doi:10.1007/s00345-009-0395-z

4) Ida K, Miyake M, Murakami K et al. Bacillus Calmette-Guérin-unresponsive non-muscle invasive bladder cancer outcomes in patients without radical cystectomy. Int J Clin Oncol. 2021 Nov;26(11):2104-2112. doi: 10.1007/s10147-021-01988-8. Epub 2021 Jul 27. PMID: 34313904

5) 2025 estimated bladder cancer market (US, France, Germany, Italy, Spain, UK & Japan). Source: Global Data: Bladder cancer market size to more than triple to over \$1.1 billion by 2025, April 2017

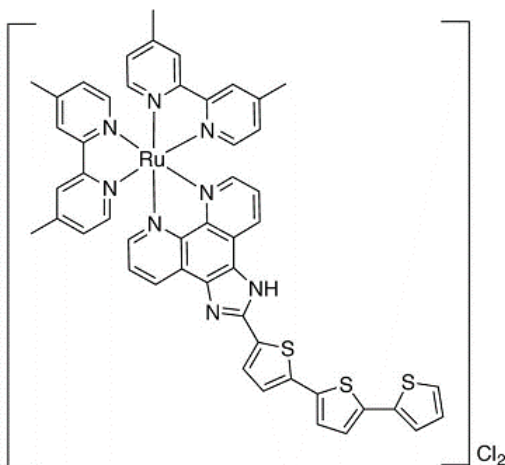
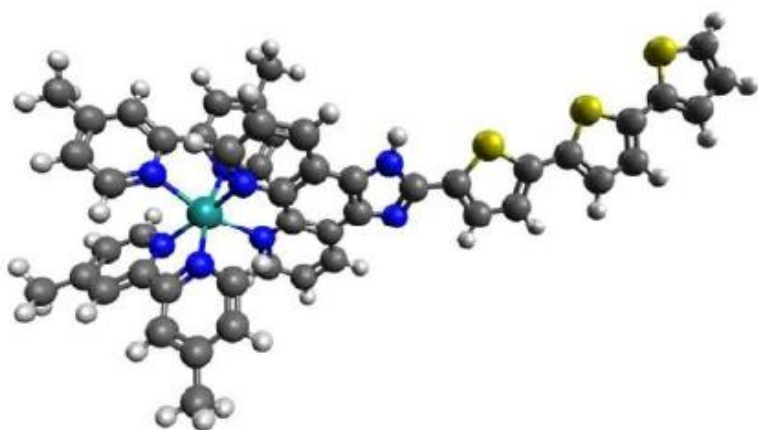
6) Global Bladder Cancer Market Size By Type (Diagnosis, Treatment), By Cancer Type (Transitional Bladder Cancer, Invasive Bladder Cancer, Superficial Bladder Cancer), By Geographic Scope And Forecast, Mar 2022

7) Key Statistics for Bladder Cancer – American Cancer Society (2023); Canadian Cancer Society (2022) and Bladder Cancer – European Cancer Patient Coalition (246,590 x 5% CIS x 25% Initial Failure Rate x 50% recurrence = 8,575)

8) Evaluate Pharma – Revenue Data – December 1, 2022)

# Ruvidar™ (TLD-1433)

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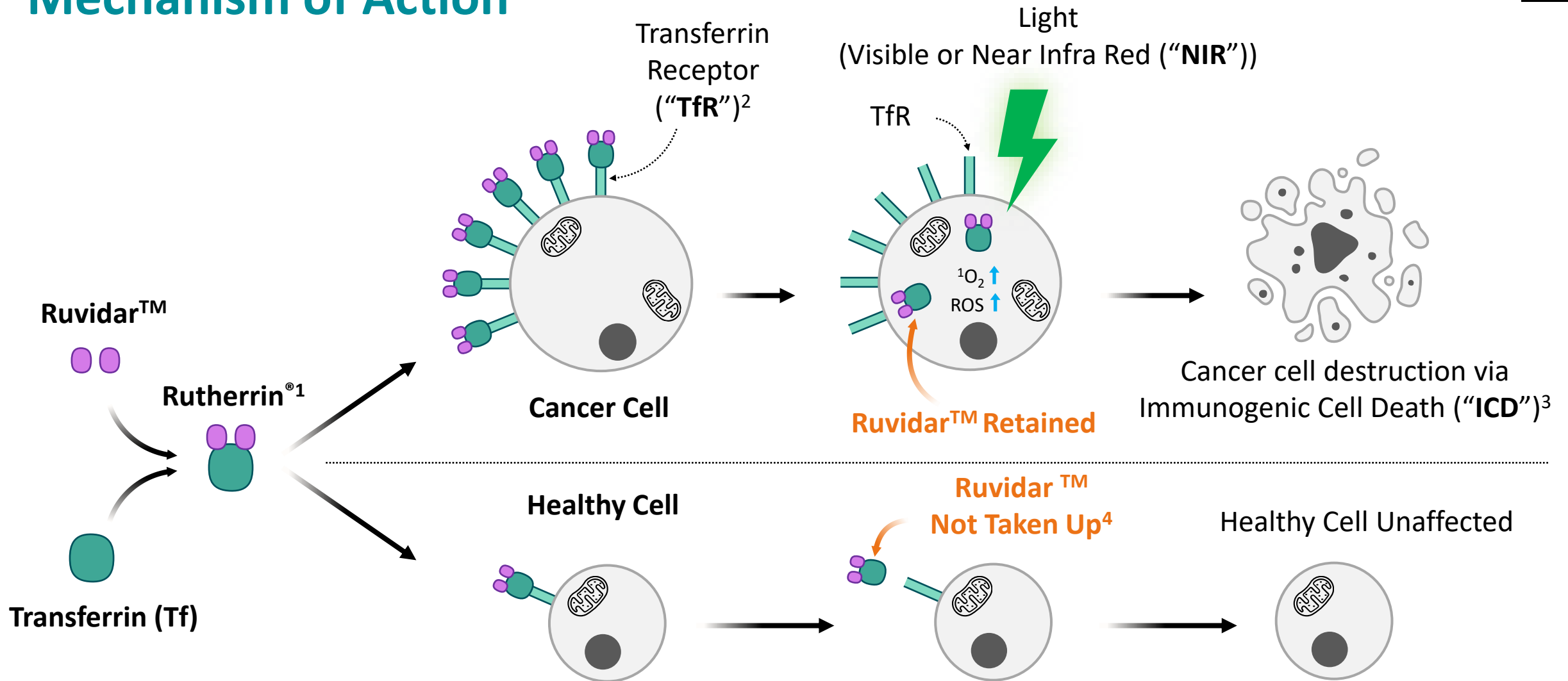
- Ruthenium based PDC
- Designed to destroy solid core tumours, such as bladder, brain, lung and breast when absorbed by the cancer cell and then light activated<sup>1</sup>
- Preferentially absorbed via transferrin receptor into bladder cancer cells, leaving healthy urothelial cells intact<sup>2,3</sup>
- High yield and high purity drug (98%)
- Optimised synthesis and GMP manufacture
- Manufactured in kilogram batches, easy to scale to larger quantities
- < 0.5 grams used for NMIBC Study Treatment

1) Kaspler P, Lazic S, Forward S, Arenas Y, Mandel A, Lilje L. A ruthenium(ii)based photosensitizer and transferrin complexes enhance photo-physical properties, cell uptake, and photodynamic therapy safety and efficacy. Photochem Photobiol Sci. 2016 Apr;15(4):481-95. doi: 10.1039/c5pp00450k. Epub 2016 Mar 7. PubMed PMID: 26947517

2) Jeong SM et al, Transferrin receptor regulates pancreatic cancer growth by modulating mitochondrial respiration and ROS generation. Biochem Biophys Res Commun. 2016 Mar 11;471(3):373-9

3) Seymour GJ et al., Transferrin receptor expression by human bladder transitional cell carcinomas Urological Research Volume 15, pages: 341–344 (1987)

# Mechanism of Action



1) Kaspler P, Lazic S, Forward S, Arenas Y, Mandel A, Lilge L. A ruthenium(ii)based photosensitizer and transferrin complexes enhance photo-physical properties, cell uptake, and photodynamic therapy safety and efficacy. *Photochem Photobiol Sci.* 2016 Apr;15(4):481-95. doi: 10.1039/c5pp00450k. Epub 2016 Mar 7. PubMed PMID: 26947517

2) Jeong SM, Hwang S, Seong RH. Transferrin receptor regulates pancreatic cancer growth by modulating mitochondrial respiration and ROS generation. <https://doi.org/10.1016/j.bbrc.2016.02.023>

3) Kawamoto M., Horibe T., Kohno M., Kawakami K. A novel transferrin receptor-targeted hybrid peptide disintegrates cancer cell membrane to induce rapid killing of cancer cells. *BMC Cancer.* 2011; 11: 359

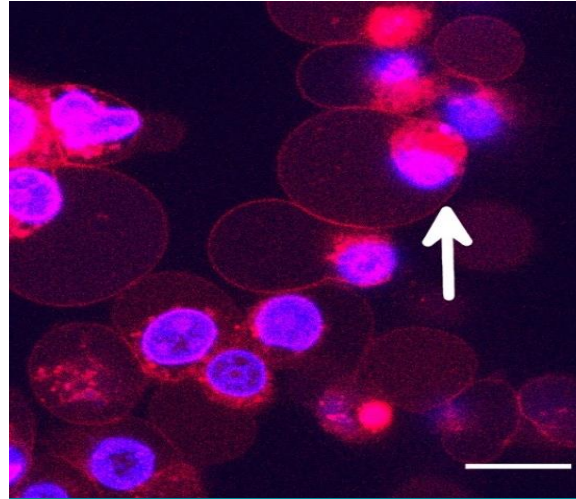
4) Seymour GJ, Walsh MD, Lavin MF, Strutton G, Gardiner RA. Transferrin receptor expression by human bladder transitional cell carcinomas. *Urol Res.* 1987;15(6):341-4. doi: 10.1007/BF00265663. PMID: 3324443.

# Study Treatment

10



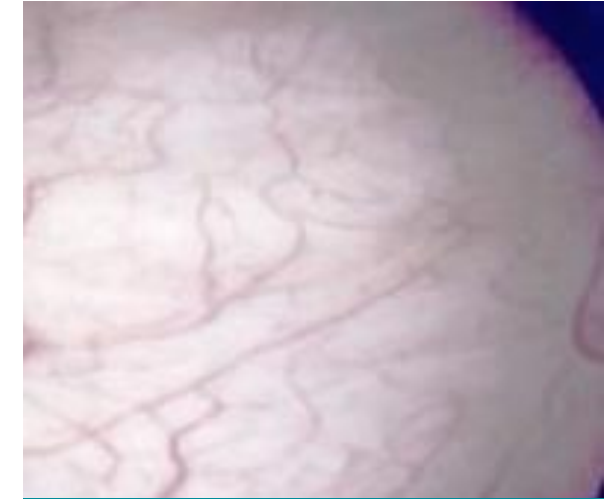
Ruvidar™ instilled  
in bladder via  
catheter  
demonstrating  
absorption  
into CIS<sup>1</sup>



Ruvidar™ localizes  
preferentially  
inside bladder cancer  
cells<sup>2,3</sup>



Green laser light  
activates  
Ruvidar™ through  
fiber optics



Bladder cancer cells  
destroyed by the  
production of singlet  
oxygen and / or  
Reactive Oxygen  
Species ("ROS")<sup>2</sup>

1) Phase Ib NMIBC clinical study patient cystoscopy photograph, after instillation of Study Drug, prior to TLC-3200 Light Activation, showing TLD-1433 localization to bladder cancer tumours

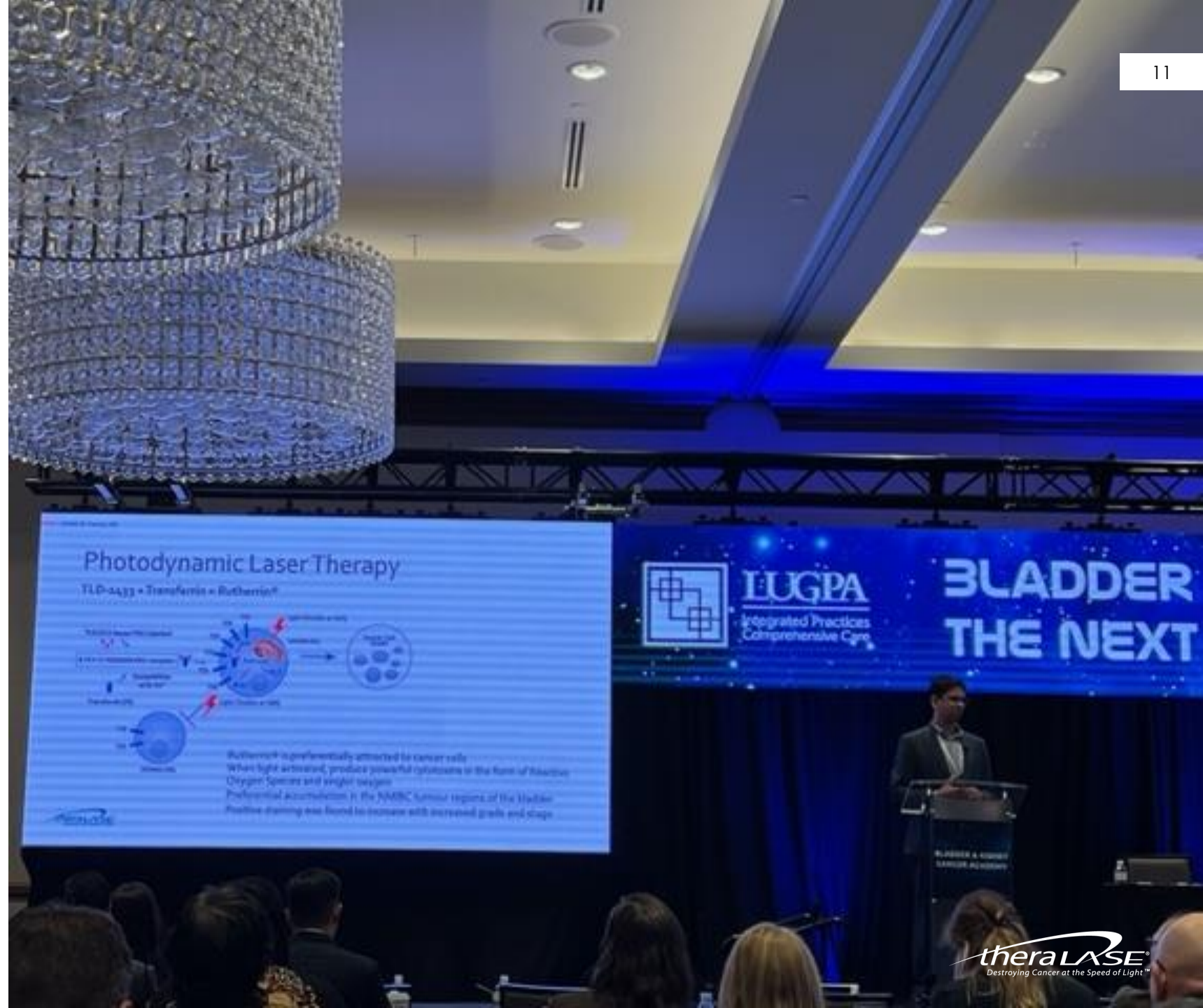
2) Kalinina S, Breymayer J, Reeß K, Lilge L, Mandel A, Rück A. Correlation of intracellular oxygen and cell metabolism by simultaneous PLIM of phosphorescent TLD1433 and FLIM of NAD(P)H. J Biophotonics. 2018 Oct;11(10):e201800085. doi:10.1002/jbio.201800085. Epub 2018 Jul 9. PubMed PMID: 29877627.

3) Seymour GJ, Walsh MD, Lavin MF, Strutton G, Gardiner RA. Transferrin receptor expression by human bladder transitional cell carcinomas. Urol Res. 1987;15(6):341-4

# Clinical Target

- 40% to 50% initial CRR and 30% CRR at 18 to 24 months (US uro-oncologists)<sup>1</sup>
- 50% initial CRR, 30% CRR at 12 months and 25% CRR at 18 months (International Bladder Cancer Group (“**IBCG**”))<sup>2</sup>
- Strong safety and efficacy clinical data on 20 to 25 patients would support a Break-Through Designation (“**BT**D”) according to the US FDA<sup>3</sup>
- BT D application to be submitted in 2Q2023 (Projected)

1) Jarow JP et al. Urology 2014  
2) Kamat AM et al. J Clin Oncol. 2016; 34: 1935-1944  
3) US FDA guidance to Theralase® in June 2019



# Proposed Indication

Ruvidar™ is indicated for the treatment of patients with Bacillus Calmette Guérin (“**BCG**”)-Unresponsive Non-Muscle Invasive Bladder Cancer (“**NMIBC**”) with Carcinoma In-Situ (“**CIS**”), with or without resected Ta / T1 papillary tumors, who are ineligible for cystectomy, have elected not to undergo cystectomy or who are intolerant to BCG therapy

## Primary Hypothesis

In patients with BCG-Unresponsive CIS, who are ineligible for or decline radical cystectomy, Ruvidar™ will result in a durable Complete Response (“**CR**”) that is greater than 20%



# Phase II NMIBC Clinical Study<sup>1</sup>

## Study design consistent with FDA Guidance:

“In BCG-Unresponsive NMIBC, a single-arm clinical trial with Complete Response Rate (“CRR”) and duration of response as the primary endpoint can provide primary evidence of effectiveness to support a marketing application”<sup>2</sup>

## Primary Objective

### Initial Efficacy

(CR achieved at any point in time)

- 1) Negative cystoscopy and negative cytology
- 2) Positive cystoscopy (low grade disease) and negative cytology
- 3) Negative cystoscopy and positive cytology (if random bladder biopsies are negative)

## Secondary Objective

### Duration of Efficacy

(12 months duration of CR after diagnosis of initial CR)

15 months from primary Study Treatment

## Tertiary Objective

### Safety

Incidence and severity of Adverse Events (“AEs”) > Grade 3, directly related to the Study Drug or Study Device, that do not resolve within 450 days post primary study treatment

**Grade 1** = Mild

**Grade 2** = Moderate

**Grade 3** = Severe

**Grade 4** = Life-threatening

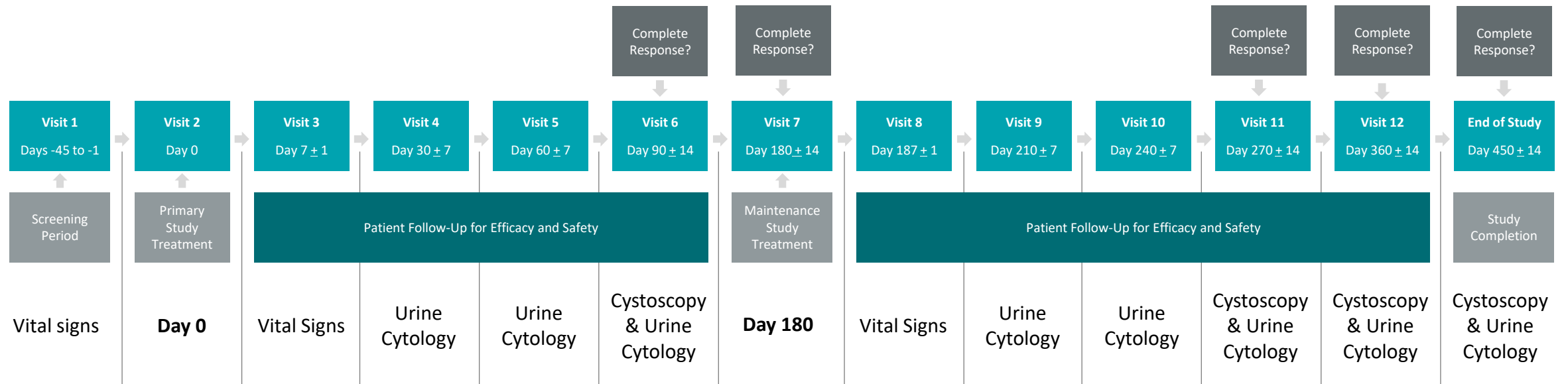
**Grade 5** = Death

1) Clinical Protocol TLD-1433-2 (Version 8.0) Dated: April 16, 2019

2) “BCG-Unresponsive Nonmuscle Invasive Bladder Cancer: Developing Drugs and Biologics for Treatment – Guidance for Industry” Dated: February 2018; [www.fda.gov/media/101468/download](http://www.fda.gov/media/101468/download)

# Study Design

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- 100 to 125 patients with BCG-Unresponsive NMIBC
- 11 Clinical Study Sites (“CSSs”) currently enrolling patients in North America (to be increased up to 15 CSSs in 2023)

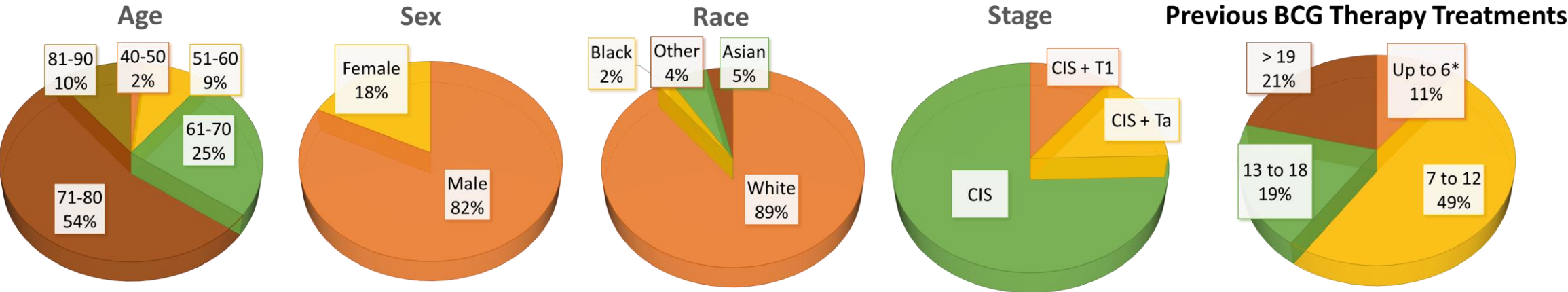


THE UNIVERSITY OF BRITISH COLUMBIA



# Phase II NMIBC Interim Clinical Data<sup>1</sup>

## Patient Demographics



| ASSESSMENT                    | 90 DAY | 180 DAY | 270 DAY | 360 DAY | 450 DAY |
|-------------------------------|--------|---------|---------|---------|---------|
| Complete Response ("CR")      | 60%    | 51%     | 41%     | 31%     | 30%     |
| Indeterminate Response ("IR") | 6%     | 17%     | 12%     | -       | 3%      |
| Total Response ("CR" + IR)    | 65%    | 68%     | 54%     | 31%     | 32%     |
| Evaluable Patients            | 52     | 47      | 41      | 39      | 37      |

**Note:** The data analysis is only a representation of the data accrued to date and does not intend to represent a tendency or portray any conclusion as to the effectiveness, duration or safety of the investigational treatment.

**Note:** Indeterminate Response ("IR") is defined as negative cystoscopy (no evidence of Urothelial Cell Carcinoma ("UCC") in the bladder) and positive urine cytology (detection of cancer in the urine, suggesting UCC in the renal system other than the bladder)

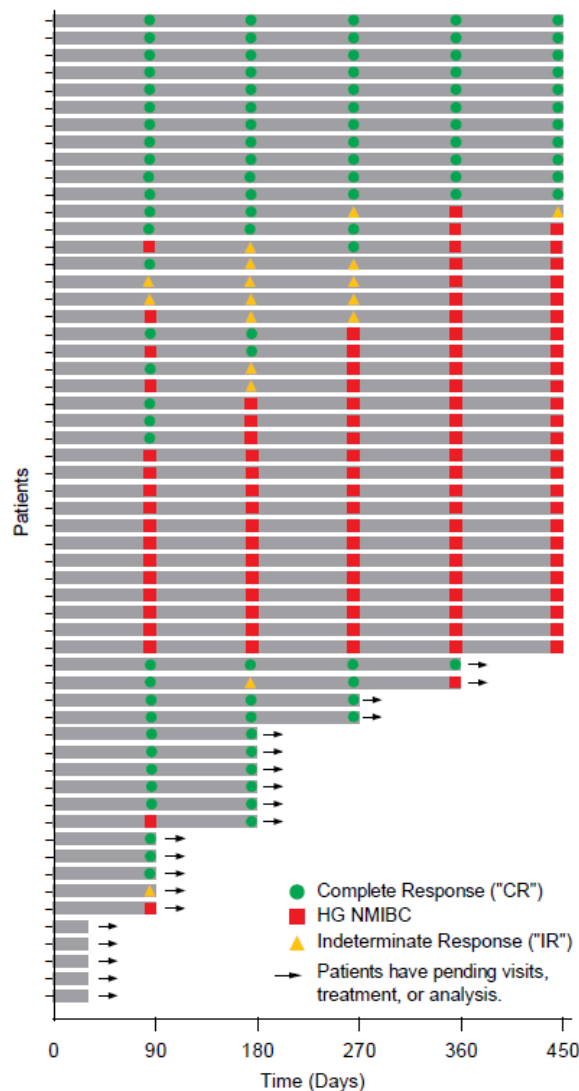
1) Theralase® Press Release - Theralase® Provides Update on Phase II Bladder Cancer Study – May 10, 2023

# Phase II NMIBC Interim Clinical Data – Graphical Representation<sup>1</sup>

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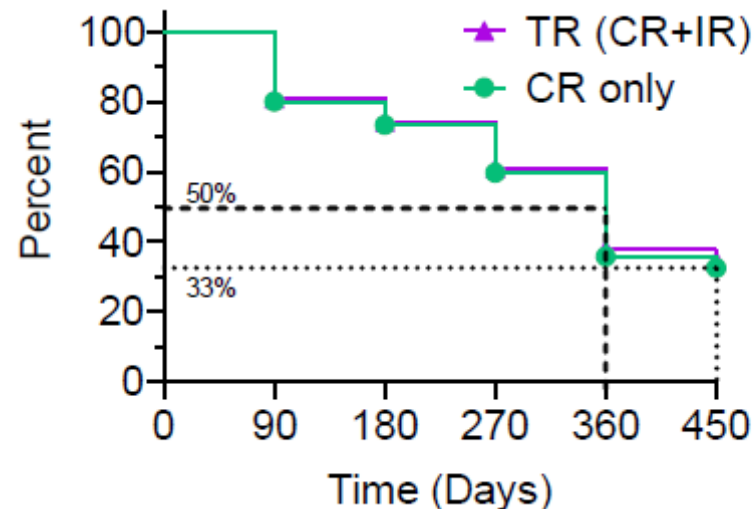
## Swimmer's Plot

- 34 Evaluable Patients that achieved CR on at least one assessment date and thus achieved the primary objective of Study II (34/52 = 65%)
- 11 Evaluable Patients that achieved CR at each assessment date and thus achieved the primary and secondary objectives of Study II for all patients assessed up to 450 days (11/37 = 30%).



## Kaplan -Meier Curve

Illustrates the probability of efficacy for the Ruvidar™ Anti-Cancer Therapy ("ACT") over the study duration, based on the available clinical data.



# Regulatory Timeline

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| Milestone                                                                     | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|-------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|
| 100 to 125 Patients Enrolled and Provided Primary Study Treatment (Projected) |      |      |      |      |      |      |      |      |
| FDA Fast Track Designation (Actual)                                           |      |      |      |      |      |      |      |      |
| Breakthrough Designation (Projected)                                          |      |      |      |      |      |      |      |      |
| Patient Follow Up (Projected)                                                 |      |      |      |      |      |      |      |      |
| Premarket Approval (Study Device) (Projected)                                 |      |      |      |      |      |      |      |      |
| Data Lock / Clinical Study Report Submission (Projected)                      |      |      |      |      |      |      |      |      |
| Health Canada and FDA Marketing Approval (Projected)                          |      |      |      |      |      |      |      |      |
| Commercialization Phase (Projected)                                           |      |      |      |      |      |      |      |      |

Regulatory Strategy: Study Drug (IND / NDA) - Study Device (PMA) – Drug / Device Combination

# Capital Structure

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TSXV:TLT

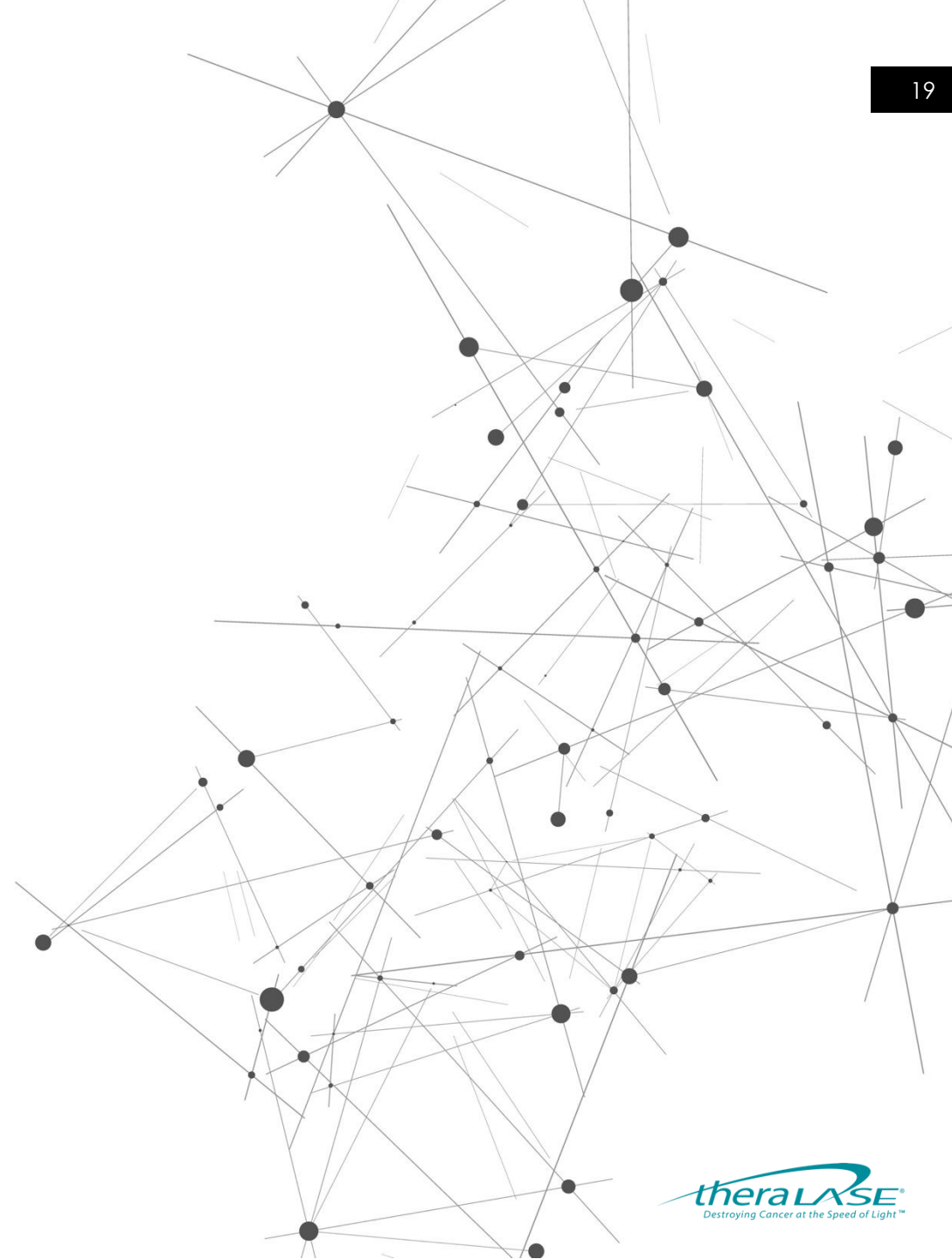
05/18/2023

|                           |                                                                                    |                          |            |
|---------------------------|------------------------------------------------------------------------------------|--------------------------|------------|
| <b>Common share price</b> | \$CAN 0.275                                                                        | <b>Warrants</b>          | 75,812,650 |
| <b>Market Capital</b>     | \$CAN 59.5 M                                                                       | <b>Options</b>           | 18,150,000 |
| <b>Shares Outstanding</b> | 216,502,675                                                                        | <b>Insider Ownership</b> | ~ 10%      |
| <b>Analyst Coverage</b>   |  |                          |            |



# Investment Highlights

- Clinical stage pharmaceutical company advancing innovative light activated compounds to treat cancer
- Lead candidate, Ruvidar <sup>TM</sup>, targeting significant unmet need in treating BCG-Unresponsive NMIBC CIS
- ½ way through Phase 2 registration clinical study with enrollment and primary study treatment projected to be completed by 4Q2023 - 1Q2024
- Interim data to date trending better than FDA approved Keytruda (Pembrolizumab)
- Quarterly data readouts demonstrate increasing CR as the clinical dataset matures





## Contact Information

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# Appendix

# FDA Approved Drugs Versus TLD-1433

| Drug                                                             | Number of Patients | Initial Complete Response Rate ("CRR")           | Durable CRR (12 months)                          | Durable CRR (15 months) | Safety                          | Limitations                                                              | Monthly Cost                               |
|------------------------------------------------------------------|--------------------|--------------------------------------------------|--------------------------------------------------|-------------------------|---------------------------------|--------------------------------------------------------------------------|--------------------------------------------|
| <b>Valrubicin<sup>1</sup></b>                                    | 78                 | 18%                                              | 10 to 13%                                        | Not Reported            | Study treatment related SAEs    | Not a BCG-Unresponsive population. Not recommended by US uro-oncologists | Unknown                                    |
| <b>Pembrolizumab (Keytruda)<sup>2,3</sup></b>                    | 96                 | 41%                                              | 19%                                              | Not Reported            | Study treatment related SAEs    | Patients must have PD-L1 expression to generate a response               | \$USD 12,500                               |
| <b>Gemcitabine + Docetaxel (Retrospective Study)<sup>4</sup></b> | 47                 | Not Reported (Recurrence Free Survival reported) | Not Reported (Recurrence Free Survival reported) | Not Reported            | Study treatment related SAEs    | Limited population treated with CIS                                      | \$USD 10,000                               |
| <b>Ruvidar<sup>5</sup></b>                                       | 52                 | 65%                                              | 31%                                              | 30%                     | No study treatment related SAEs | Not FDA Approved (In Progress)                                           | \$USD 200,000 for a single treatment (TBD) |

1) Dinney CPN et al. Intravesical valrubicin in patients with bladder carcinoma in situ and contraindication to or failure after bacillus Calmette-Guérin. Urol Oncol. 2013 Nov;31(8):1635-42

2) Press Release – Merck’s KEYTRUDA® (pembrolizumab) Showed a Complete Response Rate of Nearly 40 Percent in Patients with High-Risk Non-Muscle Invasive Bladder Cancer (NMIBC) Unresponsive to Standard of Care – October 20, 2018

3) Press Release - FDA Approves Merck’s KEYTRUDA® (pembrolizumab) for Patients With MSI-H/dMMR Advanced Endometrial Carcinoma, Who Have Disease Progression Following Prior Systemic Therapy in Any Setting and Are Not Candidates for Curative Surgery or Radiation – March 21, 2022

4) Packiam VT et al. Intravesical Gemcitabine and Docetaxel for Nonmuscle-Invasive Bladder Cancer. AUA News. June 1, 2022

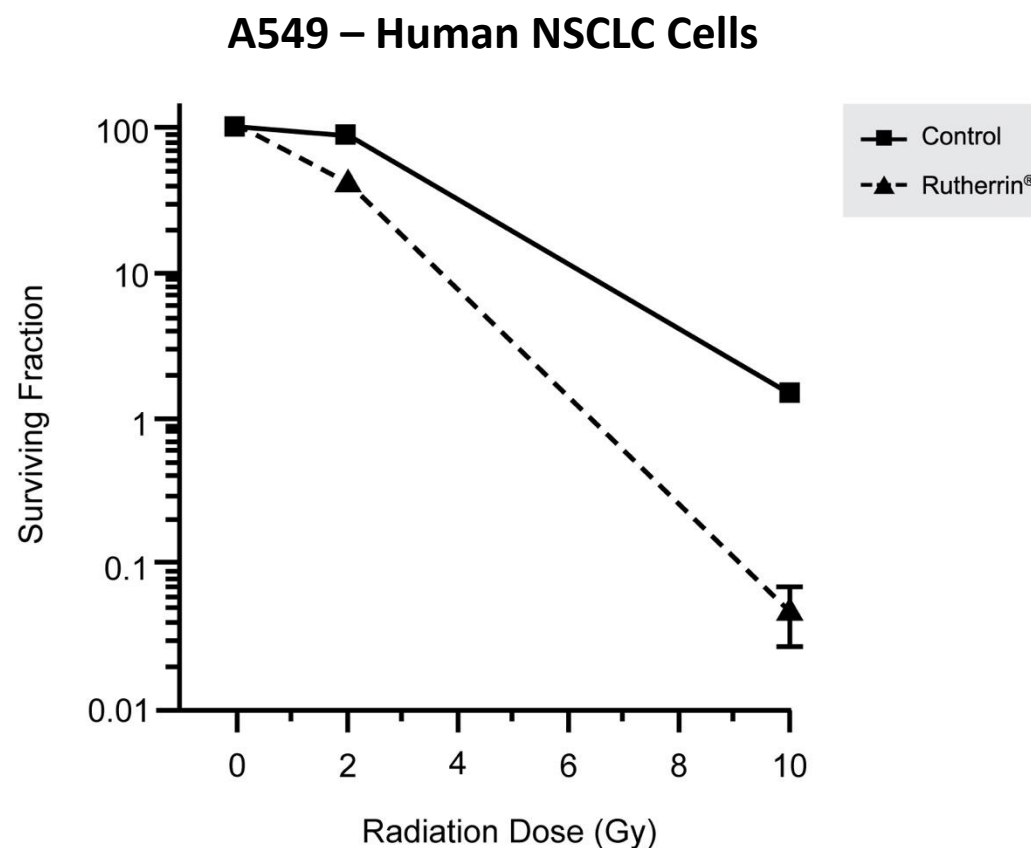
5) Theralase® Press Release - Theralase® Provides Update on Phase II Bladder Cancer Study – May 10, 2023

# Cost of Cancer Therapy Drugs (Breakthrough Designation)

| Drug Name | BLA/NDA | Monoclonal Anti-Body ("MAB") | Indication                                                                   | Cost Per Month (\$USD) |
|-----------|---------|------------------------------|------------------------------------------------------------------------------|------------------------|
| Alecensa  | NDA     | No                           | Metastatic Non-Small Cell Lung Cancer                                        | 12,500                 |
| Keytruda  | BLA     | Yes                          | Non-Muscle Invasive Bladder Cancer                                           | 12,500                 |
| Empliciti | BLA     | Yes                          | Multiple Myeloma Cancer (in combination with lenalidomide and dexamethasone) | 12,000                 |
| Opdivo    | BLA     | Yes                          | Hepatocellular Carcinoma                                                     | 12,500                 |
| Darzalex  | BLA     | Yes                          | Multiple Myeloma Cancer (in combination with lenalidomide and dexamethasone) | 15,000                 |
| Tagrisso  | NDA     | No                           | Adjuvant / Metastatic Non-Small Cell Lung Cancer                             | 12,750                 |
| Ibrance   | NDA     | No                           | Negative Locally Advanced or Metastatic Breast Cancer:                       | 10,677                 |
| Zydelig   | NDA     | No                           | Relapsed Chronic Lymphocytic Leukemia                                        | 8,200                  |
| Zykadia   | NDA     | No                           | Metastatic Non-Small Cell Lung Cancer                                        | 13,672                 |
| Imbruvica | NDA     | No                           | Relapsed Chronic Lymphocytic Leukemia                                        | 16,000                 |
| Gazyva    | BLA     | Yes                          | Chronic Lymphocytic Leukemia (in combination with Chlorambucil)              | 6,700                  |
|           |         |                              | <b>Average</b>                                                               | <b>\$12,045</b>        |

# Non-Small Cell Lung Cancer (“NSCLC”)<sup>1</sup>

NSCLC - Rutherrin<sup>®</sup> + X-Ray Activation

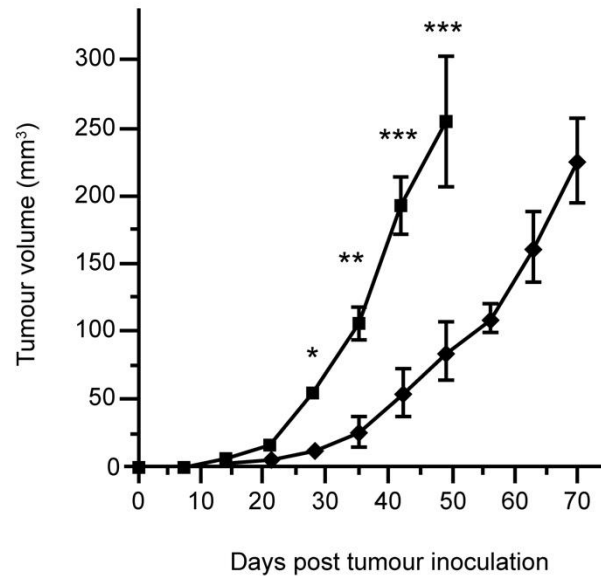


Rutherrin<sup>®</sup> + X-Ray Activation leads to a 3 log  
kill of human NSCLC cells in-vitro

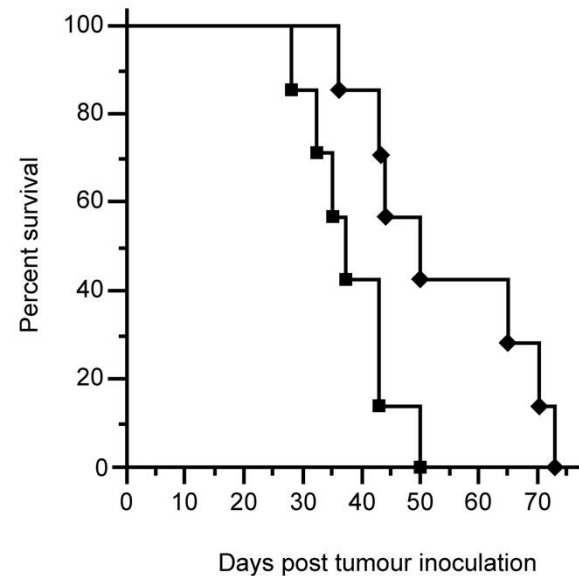
# GlioBlastoma Multiforme (“GBM”)

## Effect of Rutherrin® in Glioblastoma Orthotopic Rat Model

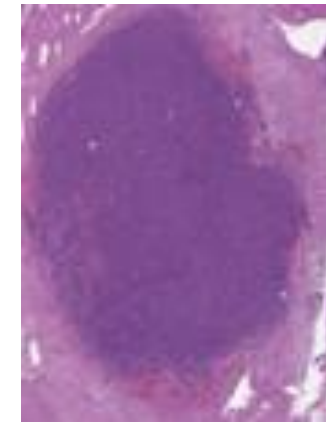
RG2 Tumour Volume



Kaplan-Meier Survival Curve



Radiation only



Radiation + Rutherrin®



■ Control

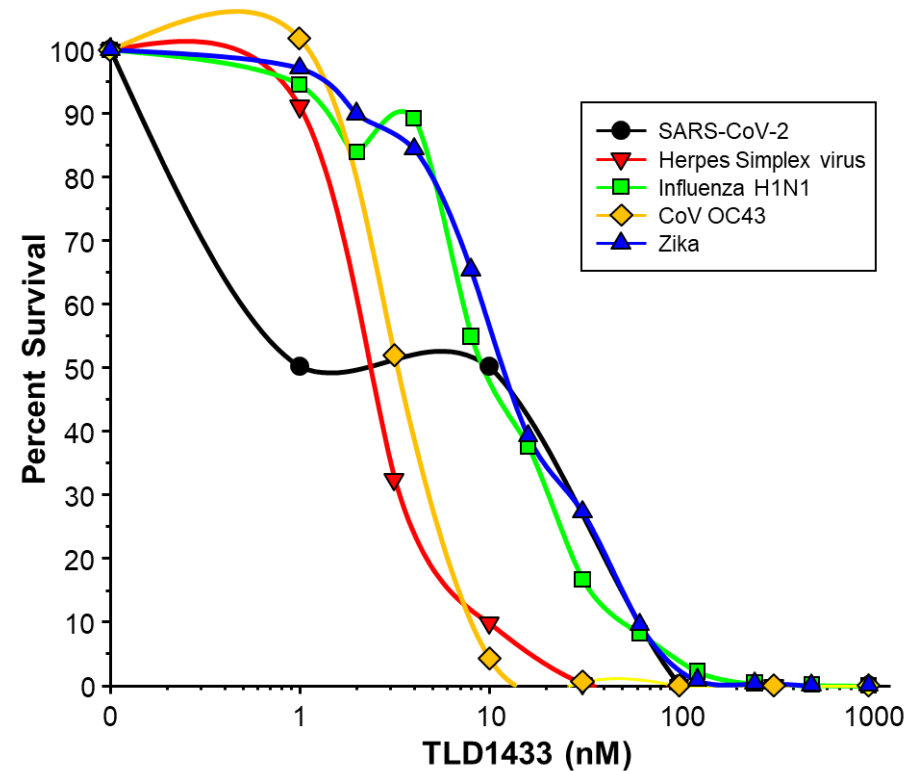
◆ Radiation + Rutherrin®  
\* p = 0.023

## Primary:

Ruvidar™ has the ability to inactivate enveloped viruses by up to 6 log kill in-vitro using nanomolar concentrations, thus allowing the manufacture of a wholly-inactivated vaccine for H1N1 Influenza, Zika, Herpes Simplex and Corona viruses - Biological Safety Level (“BSL”) 2 and 3<sup>1</sup>

## Secondary:

Investigate the use of the vaccine to build antibodies in animals via assays and to protect animals from contacting the virus via challenge models (Pending)



**Note:** Theralase® does not claim or profess that they have the ability to treat, cure or prevent the contraction of the SARS-CoV-2 coronavirus (COVID-19).

# Management / Board of Directors

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**Arkady Mandel**  
**MD, PhD, DSc**

**Interim Chief Executive Officer  
& Chief Scientific Officer**

30+ years of scientific, preclinical and clinical experience in technology creation and innovation.

A key founder of the therapeutic use of medical lasers in dermatological treatments and other areas of clinical medicine.



**Kristina Hachey**  
**CPA**

**Chief Financial Officer**

20+ years of financial and financing experience for public and private companies. Experienced in corporate governance and compliance.



**Guy Anderson**  
**MDA, CFP®, CIM®**  
**Independent Director**

20+ years of financial experience, currently providing service to Aligned Capital Partners.



**Matthew Perraton,**  
**PFP, FMA, FCSI**  
**Independent Director**

20+ years of financial experience, most recently as a Senior Investment Advisor for Jong Perraton Private Wealth Group.



**Randy Bruder**  
**Independent Director**

30+ years of senior management experience as owner and Chief Operating Officer of a Canadian wholesale/retail food processing organization.

**Insider Ownership ~ 10%**



**Ashish Kamat, MD**

MD Anderson

- Internationally recognized expert in urologic oncology and authority in the management of urologic cancers
- Expertise in bladder cancer, organ sparing and minimally invasive techniques. Maintains an active research portfolio with focus on efforts to develop novel therapies and identify predictors of response to therapy (i.e.: intravesical immunotherapy), as a first step towards personalized cancer therapeutics.
- Initiated, led and active in several large studies including multinational trials in bladder cancer, findings published in high impact journals



**Michael O'Donnell, MD**

University of Iowa

- Uro-oncologist
- Long history of focusing on bladder immunology and bladder cancer immunotherapy, particularly the anti-cancer mechanisms of Bacillus Calmette-Guerin ("**BCG**") and its enhancement with combination therapies
- Led a national trial of bladder cancer treatment utilizing BCG plus interferon (a natural protein which induces healthy cells to combat disease) comprised of over 1,000 patients and holds several U.S. patents for his work

# Past Events - 2023



## American Society of Clinical Oncology's Annual Genitourinary Cancers Symposium (ASCO-GU)

February 16 to 18, 2023  
San Francisco, California  
Abstract Presented



## American Urological Association Annual Meeting

April 28 to May 1, 2023  
Chicago, Illinois  
Abstract Presented