

Phase 3, randomized, placebo-controlled clinical trial of CAN-2409+prodrug in combination with standard of care external beam radiation (EBRT) for newly diagnosed localized prostate cancer

Theodore DeWeese, Thomas Wheeler, John Sylvester, Thomas Schroeder, Glen Gejerman, Gregory Chesnut, Thomas Facelle, Mark Garzotto, Ron Tutrone, Christopher Pieczonka, Megan Goody, Jenessa Vogt, Shangbang Rao, Maria Lucia Silva Polanco, Andrea Manzanera, Francesca Barone, Garrett Nichols, Paul P. Tak.

Theodore L. DeWeese, MD

Professor of Radiation Oncology, Urology & Oncology, Johns Hopkins University School of Medicine







Key Takeaways

CAN-2409 + prodrug significantly reduces the risk of disease recurrence or death by 30% (HR 0.7, p-value 0.0155) compared with placebo when added to SoC EBRT in patients with intermediate-to-high-risk, localized prostate cancer

CAN-2409 could offer a potential paradigm shift in the treatment of patients with intermediate-to-high-risk localized prostate cancer who seek curative treatment upon diagnosis

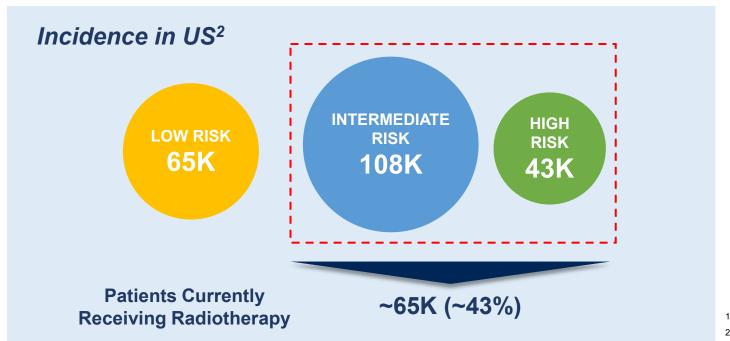






Unmet need in localized prostate cancer

Global concern: approximately 1.4 million new cases of prostate cancer in 2020¹



¹ WHO cancer fact sheet. February 3, 2022

Ultimate goal of curative treatment is **prevention of cancer recurrence** while minimizing treatment-related side effects and maintaining quality of life

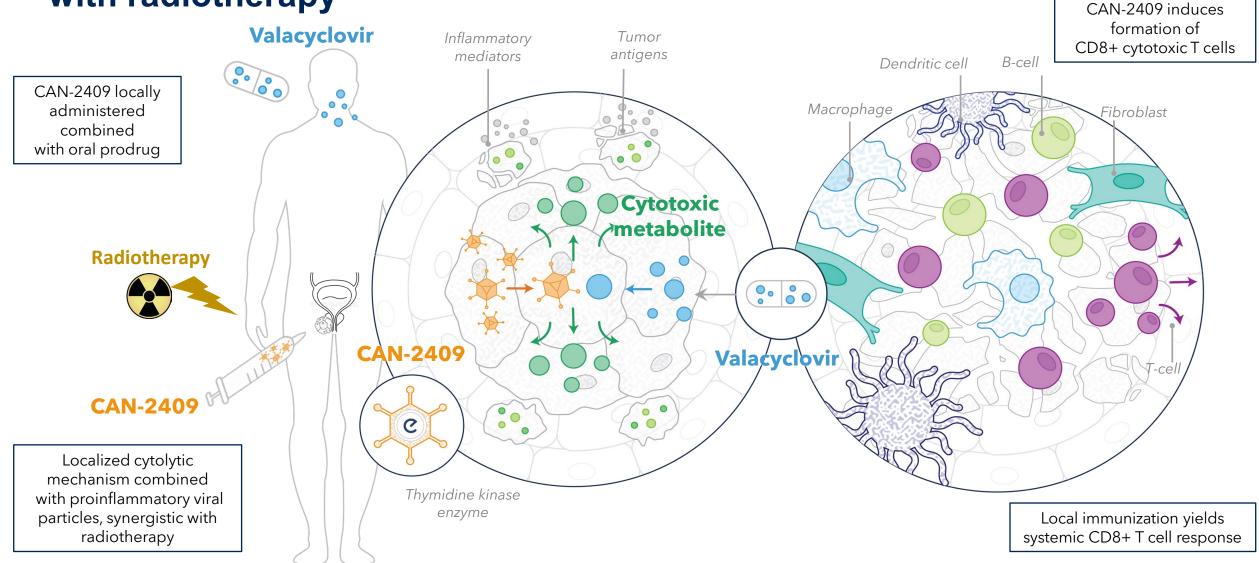






² Globe Life Science Report, 2025 (data on file)

CAN-2409 + prodrug: multimodal immunotherapy synergistic with radiotherapy







Phase 3 clinical trial of CAN-2409 in patients with newly diagnosed, intermediate / high risk, localized prostate cancer

N=745

Fully enrolled Newly diagnosed, intermediate / high risk, localized prostate cancer

Placebo + Valacyclovir (3 injection courses + radiotherapy, with or without short course ADT)

Placebo + Valacyclovir (3 injection courses + radiotherapy, with or without short course ADT)

NCT01436968

Primary Endpoints

 Disease-free survival (time to cancer recurrence or death due to any cause)*

Key secondary endpoints

- PSA freedom from biochemical failure
- Prostate cancer specific outcomes
- Overall survival

Conducted under agreement with FDA under Special Protocol Assessment

Randomization stratified by NCCN risk group and planned short course ADT (androgen deprivation therapy)

*Defined as local (biopsy), regional, or metastatic disease, or death due to any cause

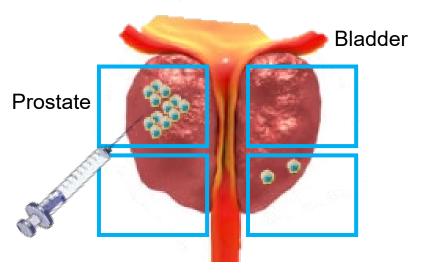




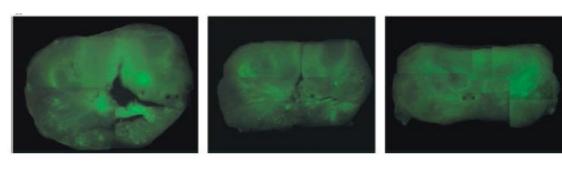


CAN-2409 is delivered in a routine and well-tolerated outpatient procedure

Standard urologic injection procedure



CAN-2409 biodistribution analysis



Images of fluorescently labeled adenoviral vector in freshly resected prostate, demonstrating homogeneous distribution throughout the organ after 4 injections of virus (0.5ml) in each prostate quadrant²

- Ultrasound guided injection (transrectal or transperineal)¹
- Performed by urologists or radiation oncologists
- A total volume of 2ml, 0.5ml in each of 4 quadrants of the prostate using a 10-22 G needle

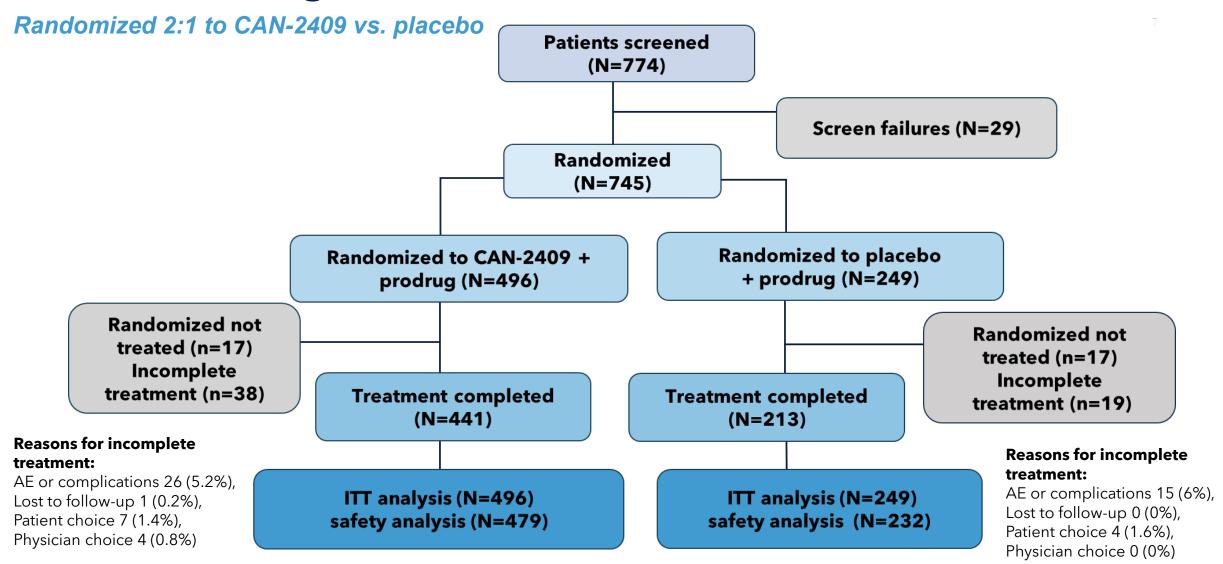
¹Aguilar L. 28th Annual Prostate Cancer Foundation, Scientific Retreat, October 2021 ²Rojas Martinez et al. Cancer Gene Ther. 2013 November; 20(11): 642–649.







CONSORT diagram







Baseline characteristics of randomized patients

ITT population (N=745)	CAN-2409 + prodrug (N=496)	Placebo + prodrug (N=249)	Total (N=745)
Median age (yrs)	69	68	69
Race, n(%)			
White/Caucasian Black/African American Asian	385 (77.6) 93 (18.8) 3 (0.6)	206 (82.7) 28 (11.2) 1 (0.4)	591 (79.3) 121 (16.2) 4 (0.5)
Native Hawaiian or Pacific Islander	0 (0)	2 (0.8)	2 (0.3)
American Indian or Alaskan Native	1 (0.2)	1 (0.4)	2 (0.3)
Not reported	14 (2.8)	11 (4.4)	25 (3.4)
Ethnicity, n(%) Hispanic or Latino Not Hispanic or Latino Not reported NCCN risk group, n(%)	37 (7.5) 377 (76.0) 82 (16.5)	34 (13.7) 175 (70.3) 40 (16.1)	71 (9.5) 552 (74.1) 122 (16.4)
Intermediate	422 (85.1)	213 (85.5)	635 (85.2)
High PSA na/ml	74 (14.9)	36 (14.5)	110 (14.8)
Median	6.815	6.500	6.700
Range Gleason score, n(%)	0.99 - 52.90	0.83 -63.30	0.83-63.30
< 7	19 (3.8)	5 (2.0)	24 (3.2)
7	417 (84.1)	217 (87.1)	634 (85.1)
> 7	60 (12.1)	27 (10.8)	87 (11.7)
ADT stratification, n(%)			
Planned ADT	244 (49.2)	122 (49.0)	366 (49.1)
No planned ADT	252 (50.8)	127 (51.0)	379 (50.9)







CAN-2409 in combination with SoC radiation +/-ADT was generally well tolerated

Treatment related AEs >5% in either arm

- Chills, fever, flu-like symptoms were commonly mild to moderate and self-limited
- Incidence of treatment related SAEs lower on CAN-2409
 - 1.7% on CAN-2409 + SoC
 - 2.2% on placebo + SoC
- Incidence of SAEs lower on CAN-2409 arm
 - 5.8% on CAN-2409 + SoC
 - 7.3% on placebo + SoC
- Incidence of treatment discontinuation due to AEs lower on CAN-2409 arm
 - 5.4% on CAN-2409 + SoC
 - 6.0% on placebo + SoC

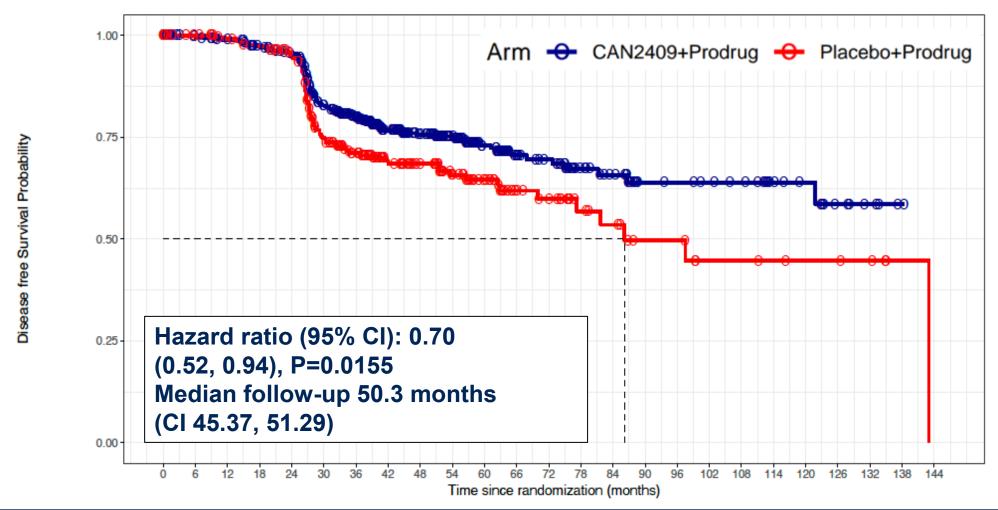
Preferred term	CAN-2409+prodrug (N=479)	Placebo+prodrug (N=232)	Total (N=711)
Chills	160 (33.4)	20 (8.6)	180 (25.3)
Influenza-like illness	146 (30.5)	32 (13.8)	178 (25.0)
Fever	120 (25.1)	9 (3.9)	129 (18.1)
Fatigue	87 (18.2)	35 (15.1)	122 (17.2)
Urinary frequency	58 (12.1)	34 (14.7)	92 (12.9)
Nausea	53 (11.1)	19 (8.2)	72 (10.1)
Headache	45 (9.4)	12 (5.2)	57 (8.0)
Diarrhoea	30 (6.3)	18 (7.8)	48 (6.8)
Malaise	28 (5.8)	5 (2.2)	33 (4.6)
Vomiting	26 (5.4)	3 (1.3)	29 (4.1)
Urinary urgency	19 (4.0)	16 (6.9)	35 (4.9)
Urinary tract pain	18 (3.8)	14 (6.0)	32 (4.5)







CAN-2409 significantly improves disease-free survival (DFS) in newly diagnosed, intermediate / high-risk prostate cancer



CAN-2409 results in 30% improvement in DFS (includes death from any cause) compared with SoC (ITT) n=745)







DFS outcomes stratified by use of short-term androgen deprivation therapy (ADT)

Distribution of ADT use in intermediate risk category and outcomes

Use of ADT	Intermediate Risk Category	N events/ patients	DFS HR with CAN-2409
No Androgen deprivation therapy	-	104/349	HR = 0.56 95% CI 0.38 - 0.83
	Favorable	49/188	HR = 0.47 95% CI 0.27 - 0.82
	Unfavorable	55/161	HR = 0.72 95% CI 0.42 – 1.24
Androgen deprivation therapy	-	47/240	HR = 0.92 95% CI 0.5 - 1.67
	Favorable *	7/31	HR = 2.26 95% CI 0.27 - 18.93
	Unfavorable	40/209	HR = 0.81 95% CI 0.42 – 1.53

^{*}ADT use is not part of SoC in intermediate favorable risk patients.

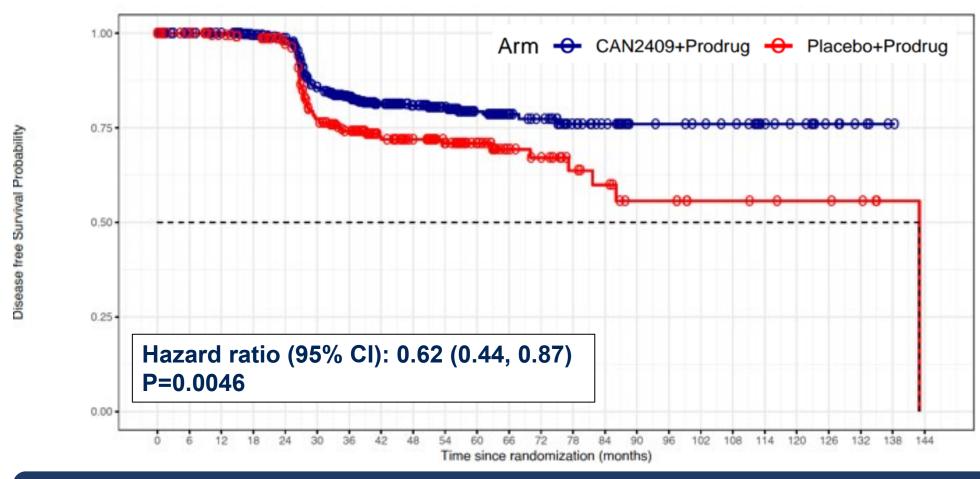
The large 95%CI (0.27-18.93) suggests that the estimate HR= 2.26 in this group is not reliable.







CAN-2409 significantly improves prostate cancer-specific DFS



Highly significant 38% reduction in risk for prostate cancer recurrence or prostate cancer-related death (ITT, N=745)

*intent to treat population







CAN-2409: other key secondary endpoints

- Significant increase in the proportion of patients achieving a prostate-specific antigen (PSA) nadir of <0.2 ng/ml in the treatment arm compared with placebo
 - 67.1% vs. 58.6%, respectively (p=0.0164)
- As expected*, overall survival was similar by treatment arm in this time frame (median follow up was 50.3 months)
 - Only 2 deaths due to prostate cancer (one CAN-2409, one placebo)
 - o 50 patients died due to other causes, unrelated to treatment









CAN-2409 significantly improves the rate of pathological complete response in 2-year biopsies compared with the placebo control arm

Pathological complete response was observed in 80.4% of the biopsies available at 2 years in the CAN-2409 arm compared with 63.6% in the placebo arm

	CAN-2409	Placebo
Total	214	99
Negative	egative 172 (80.4%)* 63 (63.6%	
Positive 42 (19.6%) 3		36 (36.4%)

*Significant difference between arms, chi-square test p= 0.0015





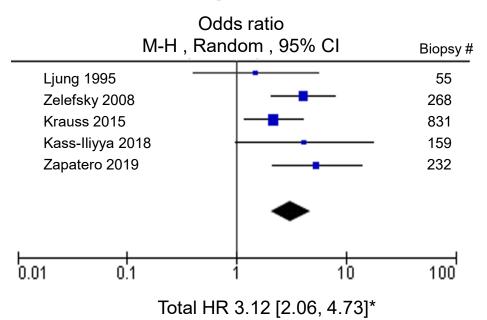


Positive biopsies ≥ 2 years after radiotherapy are predictive of metastases and cancer-related mortality after long-term follow up

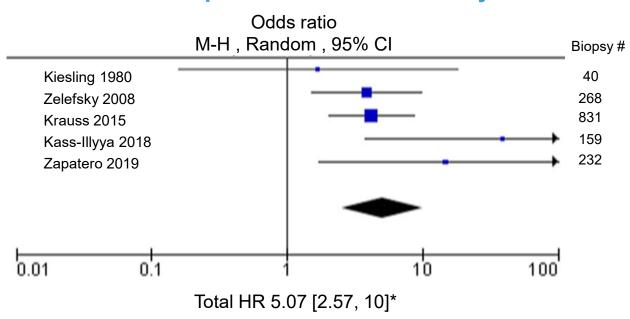
Patients with a positive prostate biopsy ≥ 2 years after radiotherapy because of localized cancer had:

- 10-fold higher odds of developing biochemical failure (P < 0.00001)
- 3-fold higher odds of developing distant metastasis (P < 0.00001)
- 5-fold higher odds of dying from their prostate cancer (P < 0.00001)

Risk of developing distant metastasis



Risk of prostate cancer mortality



^{*} Weighted risk across studies, represented Forrest plots for metastasis-free survival and cancer mortality

Singh S et al. Prostate Cancer Prostatic Dis 2021;24:612-622







Concluding remarks

- Compared with standard of care alone, the addition of CAN-2409:
 - Significantly reduced the risk of disease recurrence or death by 30% (HR 0.70; p=0.0155)
 - Significantly reduced the risk of prostate cancer recurrence or prostate cancer-related death by 38% (HR 0.62; p=0.0046)
 - Significantly increased the proportion of patients achieving a PSA nadir of <0.2 ng/ml (67.1% vs. 58.6%; p=0.0164)
 - Significantly improved the rate of pathological complete response in 2-year biopsies (80.4% vs. 63.6%; p=0.0015)
- CAN-2409 was generally well-tolerated

If approved, CAN-2409 immunotherapy could represent the first new therapy for men with localized prostate cancer in over 20 years







Acknowledgements

Patients and their families, study site personnel, Dr. Peter Scardino for co-designing the trial.

Investigators: Drs. Joshua Meeks, Nilay Gandhi, Steven Sukin, Daniel Song, Michael Liss, Steven Kester, Maximiliano Sorbellini, Bryan Mehlhaff, Paul Kim, Shawn Zimberg, Stephen Savage, Osvaldo Padron, Elizabeth Perazza, Andrew Trainer, Francis Cannizzo, Michael Chang, Dana Nanigian, Stanley Liauw, Cesar Ercole, Sanjay Mehta, James Cochran, Barak Perahia, Eashwer Reddy, Sheldon Freedman, Laurence Belkoff, Eric Horwitz, Louis Krane, David Beyer, Koushik Shaw, Neal Shore, Brian Mazzarella, Mitchell Sokoloff, Peter Rossi, Manoj Reddy, Glen McWilliams, Jennifer Slim, Mohummad Siddiqui, Robert Given, Robert Franklin, Jeffrey Gingrich, Justin Famoso, and Roscoe Nelson

Data and Safety Monitoring Board: Drs. Celestia Higano, Adam Kibel, Anthony Zietman, Stuart Mushlin, and Scott Evans.

External Adjudication Committee: Drs. Gopal Gupta, Munveer Bhangoo, and Kara Watts.

Blinded central pathologists: Drs. Rajal Shah and Feng Deng.

Sponsor of the clinical trial: Candel Therapeutics







Lay Summary

For patients with localized prostate cancer (meaning the cancer has not spread), the experimental treatment CAN-2409 has been shown to reduce the risk of the cancer coming back or leading to death by 30% when added to standard radiation therapy.

This experimental treatment could represent a major shift in how we treat patients with intermediate-to-high-risk, localized prostate cancer. It aims to offer a curative option that may avoid the need for future treatments that often come with significant side effects, prevent the disease from progressing over time, and, thus, help reduce the anxiety many patients feel about their cancer.





