TITAN PHARMACEUTICALS

April 2021

FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, or the Exchange Act. All statements other than statements of historical facts contained in this presentation, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

The words “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

These forward-looking statements are only predictions and we may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, so you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have based these forward-looking statements largely on our current expectations and projections about future events and trends that we believe may affect our business, financial condition and operating results. We have included important factors in the cautionary statements included in this presentation, and in the documents we file with the Securities and Exchange Commission under the Securities Act and Exchange Act, particularly in the ‘Risk Factors’ section, that could cause actual future results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

The forward-looking statements included in this presentation represent our views as of the date of this presentation. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this presentation.

This presentation contains estimates made, and other statistical data published, by independent parties and by us relating to market size and growth and other data about our industry. We obtained the industry and market data in this presentation from our own research as well as from industry and general publications, surveys and studies conducted by third parties. This data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty. We caution you not to give undue weight to such projections, assumptions and estimates.

COMPANY SNAPSHOT

ProNeura® platform technology provides continuous delivery, maintaining a stable blood level of select drugs for the treatment of chronic conditions

ProNeura has demonstrated viability with prior product approvals in the U.S., Canada and EU

Titan is a development-stage company, focusing on two key ProNeura-based product candidates:

- Kappa opioid receptor agonist (TP-2021) implant for moderate-to-severe chronic pruritus
- Nalmefene implant for the treatment of opioid use disorder (OUD) in adults following detoxification from opioids

EXPERIENCED MANAGEMENT
EXECUTIVE TEAM & BOARD OF DIRECTORS

Marc Rubin, M.D.
Executive Chairman, Director

Kate Beebe DeVarney, Ph.D.
President & Chief Operating Officer, Director

Joseph Akers
Director

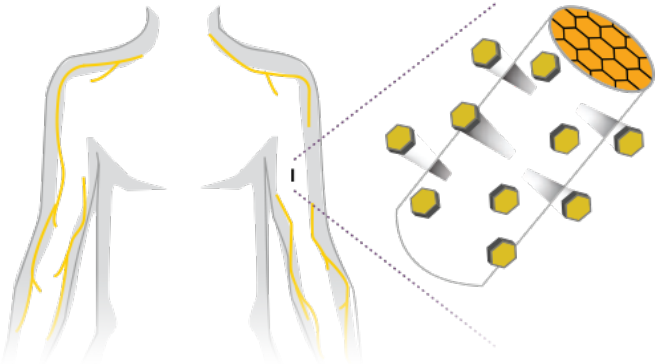
David MacFarlane, Ph.D.
Director

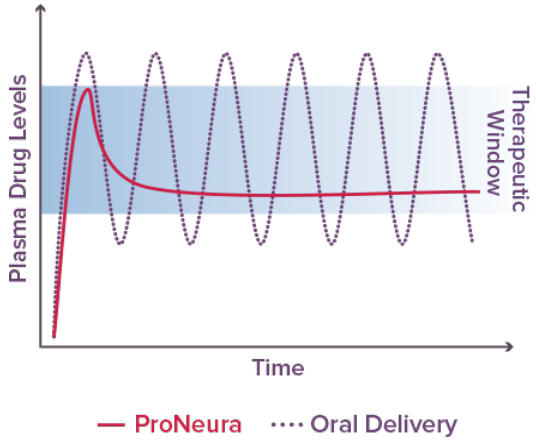
James McNab, Jr.
Director

NOVEL DRUG DELIVERY PLATFORM- PRONEURA
LONG-TERM, CONTINUOUS DRUG DELIVERY

- Active pharmaceutical ingredient (API) uniformly distributed throughout the ethylene vinyl acetate co-polymer (EVA) matrix
- No reservoir; therefore, no risk of drug dumping
- Controlled rate of drug delivery and essentially 100% bioavailability
- Intellectual Property
    - Issued patents for heterogeneous co-extruded implantable devices for drug delivery of a wide variety of compounds

PRONEURA
MECHANISM OVERVIEW





- Inserted subdermally
- Drug is released continuously through the process of dissolution
- Results in a stable level of medication in the blood, avoiding peaks and troughs of oral dosing
- Around-the-clock long-term treatment (6 months or longer) in outpatient setting

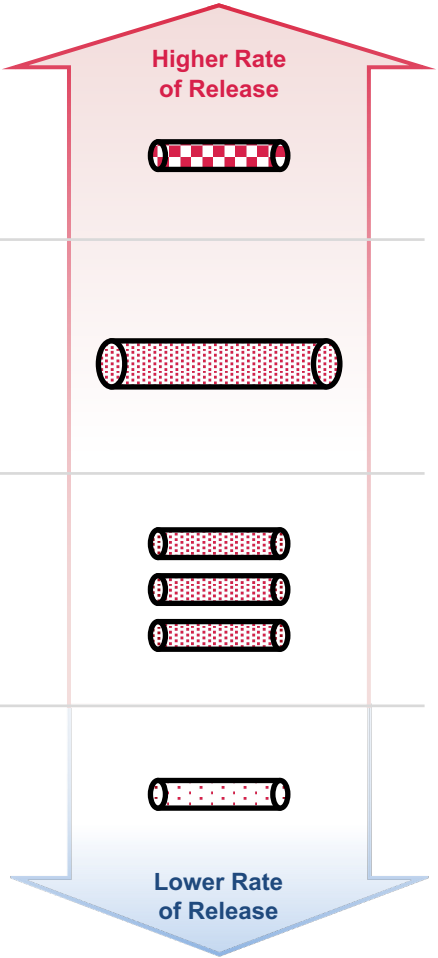
PRONEURA
FLEXIBLE AND CUSTOMIZABLE CONTROLLED DRUG RELEASE

▲ **Higher drug loading %, lower EVA%**
= Larger sized pores
= Higher rate of drug release

▲ **Larger sized implants**
= Greater surface area
= Increased number of pores
= Higher rate of drug release

▲ **Multiple implants**
= Greater overall surface area
= Increased number of pores
= Higher rate of drug release

▼ **Lower drug loading %, greater EVA%**
= Smaller-sized pores
= Fewer pores
= Lower rate of drug release



TITAN® PHARMACEUTICALS

About Chronic Pruritus

- Potentially debilitating condition defined as moderate-to-severe itch lasting longer than 6 weeks
- Estimated U.S. patient population = **23 - 44 million**[1]
- Significant unmet need
  - Current treatments are only marginally effective
  - Often associated with undesirable side-effects

1. Mollanazar N., et al. Epidemiology of Chronic Pruritus: Where Have We Been and Where Are We Going? **Current Dermatology Reports** 4:20–29 (2015)

KAPPA OPIOID RECEPTOR AGONISTS (KOAs) FOR PRURITUS
THE SCIENCE

- Antipruritic effect thought to be related to their binding to kappa-opioid receptors (KORs) on keratinocytes, immune cells, and peripheral itch neurons
- Nalfurafine is a CNS-penetrant antipruritic marketed in Japan for the treatment of uremic pruritus in individuals with chronic kidney disease undergoing hemodialysis
    - Not approved in U.S. or EU
- Peripherally-restricted KOAs, such as CR845 (Korsuva™) demonstrated efficacy in treating pruritus with a limited side-effect profile[1]

1. Cara Therapeutics (2020) Study to Evaluate IV CR845 in Hemodialysis Patients With Moderate-to-Severe Pruritus (https://clinicaltrials.gov/ct2/show/NCT02858726)

OUR TP-2021 OPPORTUNITY
LEVERAGING PRONEURA LONG-TERM DELIVERY

- Cara Therapeutics recently filed an NDA for Korsuva, a KOA peptide, for the treatment of moderate-to-severe uremic pruritus in patients undergoing hemodialysis
- For this potential indication, Korsuva is given several times per week, immediately following hemodialysis
- Non clinical experiments indicate that TP-2021 has comparable potency to Korsuva

ProNeura implant containing TP-2021 could potentially eliminate the need for daily or weekly administration by delivering low-dose, non-fluctuating medication levels for six months or longer following a single in-office procedure

NEXT STEPS

Q2-Q3 2021
- Multiple dose proof of concept study of TP-2021 in an animal model of induced pruritus

H2 2021
- Initiate IND-enabling safety and pharmacology studies following pre-IND guidance from the FDA

PRONEURA-NALMEFENE IMPLANTS
OUR OPPORTUNITY

- NIDA-funded development program: $8.7 mil for formulation development and IND related non-clinical studies
    - Completed formulation development
    - Pre-IND meeting with FDA provided clear guidance on non-clinical requirements
        - ➢ Expected completion in mid-2021
- Nalmefene approved by the FDA in 1995 as an injectable formulation (Revex®) for the management and reversal of opioid overdose, including respiratory depression
- Oral nalmefene was approved by the EMA in 2013 for treating alcohol dependence
- Nalmefene is ideal for delivery with Titan's ProNeura platform
    - 1-2 implants/subject could potentially provide ~80% blockage of mu opioid receptors
    - 6 months or longer delivery for prevention of relapse to opioid dependence after detoxification

HIGHLIGHTS

- Innovative & Proprietary ProNeura Drug Delivery Platform
- Success Bringing Product From Preclinical Through to Regulatory Approval
- Improved Overall Cost Structure and Reduced Quarterly Cash Burn
- Large & Growing Market Opportunities
- Experienced Management Team

Thank You