Castle Creek Pharmaceuticals

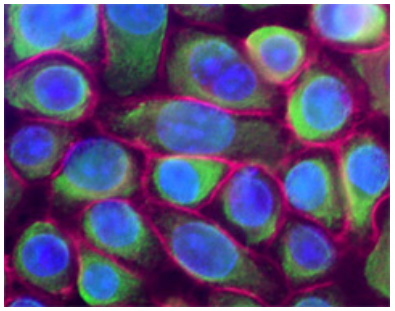
Dermatology Summit Entrepreneurial Showcase 2018

Michael Derby, CEO

January 7, 2018

Castle Creek Pharma
Driving innovation in dermatology

We are a high-growth biotech company focused on identifying, developing and commercializing **innovative drugs that address high unmet medical needs in dermatology**



- Rare genetic orphan dermatology with potential **first ever drug approvals**
- Broad dermatology with **differentiated products**

- Ongoing Phase 3 for high potential **rare dermatologic condition (epidermolysis bullosa simplex)** with no approved treatments and significant unmet need
- Potentially **disease modifying therapy** with $1bn+ peak sales potential

Our Dermatology Development Pipeline

High potential candidates targeting multiple indications

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Life-Changing Impact

	2018	2019	2020	2021	2022	Est Peak Sales
Orphan Dermatology						
CCP-020 (topical diacerein)						
Epidermolysis bullosa simplex (EBS)	Phase 3	NDA Filing				$1bn +
CCP-060						
Rare genetic dermatologic condition	Preclinical	Phase 3				$300mm +
CCP-070						
Rare genetic dermatologic condition	Preclinical	Phase 1/2	Phase 3			$100mm
Total Orphan Derm						$1.4bn +
Broad Dermatology						
CCP-050						
Atopic dermatitis (AD)	Phase 2	Phase 3				$500mm +
CCP-043						
Severe acne	Preclinical	Phase 1/2	Phase 3			$500mm +
CCP-070						
Vitiligo	Preclinical	Phase 1/2		Phase 3		$1bn +
Total Broad Derm						$2bn +
Total Derm						$3.4bn +

Our Leadership Team

Deep expertise in dermatology and rare disease

	Name	Prior Experience
	**Michael Derby** *Founder and Chief Executive Officer*	Senior Executive of Marathon Pharmaceuticals, Founder/CEO of Norphan Pharmaceuticals (sold to Marathon), EGS Healthcare Capital Partners, Merck & Co.
	**Greg Licholai, MD** *President and Chief Medical Officer*	President, Rare Disease Unit of Moderna Therapeutics, McKinsey & Co., Proteostasis, Amicus, Domain Associates, Medtronic
	**Amir Tavakkol, PhD** *EVP and Chief Development Officer*	Chief Development Officer of Viamet, Senior Executive of Topica, Merck & Co., Schering Plough, Novartis, Colgate Palmolive, University of Michigan
	**John Koconis** *EVP and Chief Commercial Officer*	President of LEO Pharma, Senior Executive of Sanofi Genzyme, Abbott Laboratories
	**Regina Donohue** *Vice President, Human Resources*	LEO Pharma, Alpharma

A Strong Investor Base

Industry leaders with proven records of success

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Fidelity INVESTMENTS

Paragon BIOSCIENCES

VALOR CAPITAL GROUP, LLC

❖July 2015

- Initial investment from Paragon Biosciences and Valor

❖September 2016

- Series A Financing of $48 million from Fidelity Investments

Understanding Epidermolysis Bullosa

The worst disease you've never heard of

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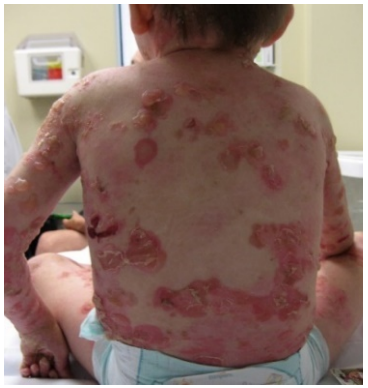
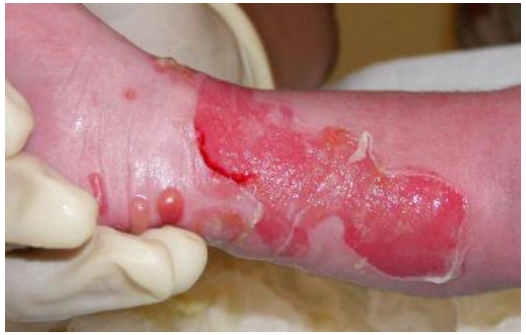
Epidermolysis bullosa (EB) is a rare genetic connective tissue disorder that affects approximately 1 in 20,000-50,000 births. **There are no FDA-approved therapies for any type of EB.**





- EB manifests as fragile skin causing local to widespread blistering
- Estimated 20,000 patients (many children) in the U.S. and >500,000 worldwide
- Estimated 70%-90% of EB patients have EB Simplex (EBS)

- Current treatment focuses on symptoms, such as itching, pain and wound care
- Our investigational medicine, CCP-020, is a potentially **disease modifying therapy** to reduce blister formation in EBS patients

Understanding Epidermolysis Bullosa Simplex

Aberrant IL-1β signaling in disease pathogenesis

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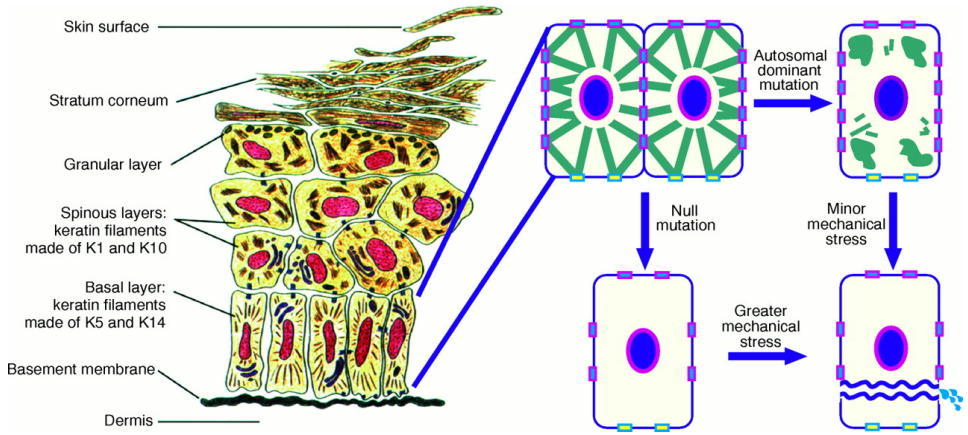
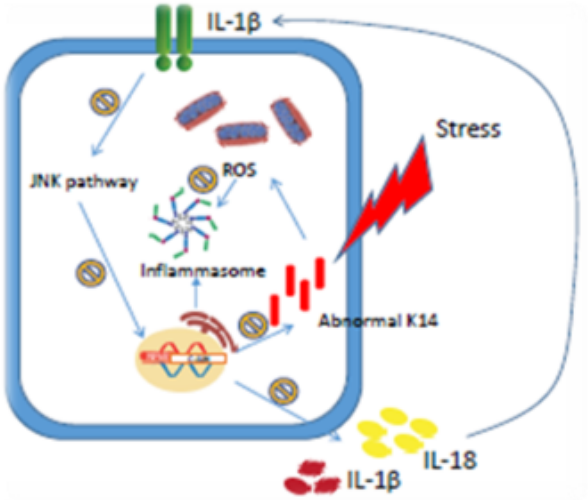


- ❖ Mutations in keratin 5 or 14 in the basal keratinocytes of EBS patients disrupt cellular integrity during physical stress.
- ❖ IL-1β is over-expressed in EBS patients, leading to the hypothesis that IL-1β may mediate the EBS phenotype.



- ❖ IL-1β activates the inflammasome assembly
  - Upregulation of pro-inflammatory cytokines
  - Generation of reactive oxygen species
  - Aggregation of mutant keratin protein
- ❖ Diacerein blocks aberrant IL-1β signaling
  - Prevents inflammatory cascade and protects keratinocytes

Evaluating topical diacerein in EBS

An overview of the Phase 2 study design

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Title	Phase 2 Study: Topical diacerein for the treatment of EBS
Primary Objective	Reduction in blister number by 40% in treated skin area (3% body surface area) vs. placebo at 4 weeks
Secondary Objective	Time to return to initial blister number (+/- 10%) during follow up
Study Design	Placebo controlled, randomized, double blinded Part 1: intervention Part 2: follow up Cross-over design
Study Population	Generalized-severe EBS Mutations in K5 or K14 Age 4-19
Patient Number	17
Therapy	Once daily self application
Time Schedule	Intervention phase: 4 weeks Follow up phase: 12 weeks

Evaluating topical diacerein in EBS

Phase 2 study results

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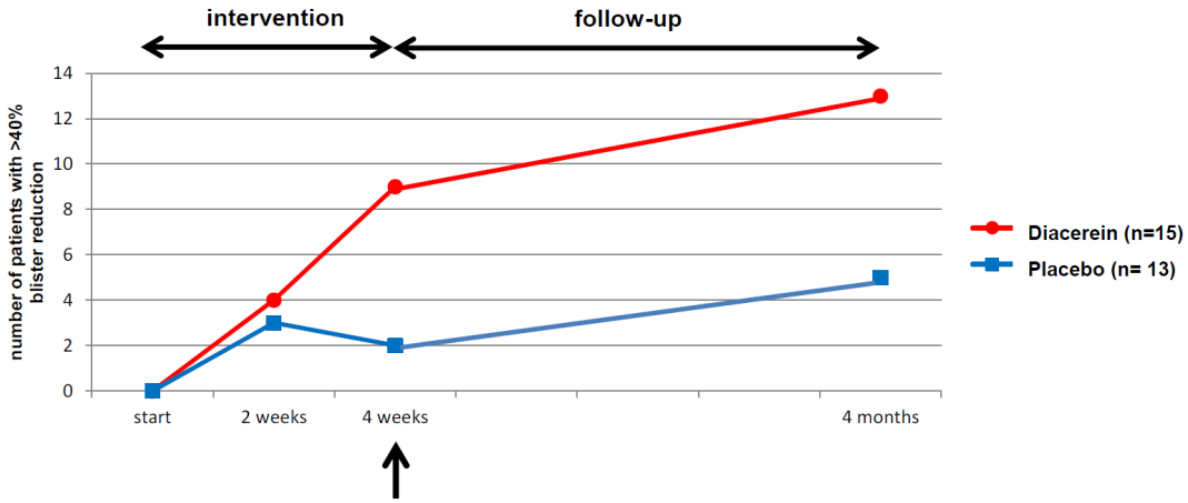
Reduction of blister numbers by 40% on treated skin areas compared to placebo after 4 weeks



Highly significant difference in responders (defined as >40% reduction in blister number) between treatment and placebo groups at 4 weeks, with continued improvement persisting out to 4 months.

CCP-020 (diacerein 1% ointment) in EBS

Phase 3 study (DELIVERS trial) design

Title	Phase 3 Study: CCP-020 for the treatment of EBS
Primary Objective	Blister surface area improvement of at least 40% vs. placebo at 16 weeks
Secondary Objectives	Investigator Global Assessment (IGA) Patient reported outcomes (pain, itch) Adverse events
Study Design	Placebo controlled, randomized, double blinded, multi-center global trial Intervention and follow up Parallel group design
Study Population	Genetically confirmed diagnosis of EBS Level 3/4 on IGA scale of disease severity Age 4+
Patient Number	80
Therapy	Once daily self application
Time Schedule	Intervention phase: 8 weeks Follow up phase: 8 weeks

Castle Creek 2018 Milestones
A year of tremendous growth

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- Completion of DELIVERS trial, targeted Q4 2018
- Advancement of each of our additional pipeline products into mid/late stage clinical development
- Completion of sale or partnership of non-strategic assets
- Potential private financing round to support advancement of pipeline and other corporate objectives

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