# **Strong Bonds** Stand the Test of Time

Durable wound healing with a single surgical application–even in tough RDEB wounds<sup>1\*</sup>

 81% of ZEVASKYN-treated wounds (35/43) achieved 50% or more healing vs 16% of matched control wounds (7/43) at week 24 in a Phase 3 study (P<0.0001)<sup>†</sup> zevaskyn™ (prademagene zamikeracel) gene-modified cellular sheets

<u>See long-term</u> follow-up images

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\*Wounds treated had remained open for at least 6 months. \*Investigator-assessed; multi-center, randomized, intrapatient-controlled study with 43 ZEVASKYN-treated wounds vs 43 matched control wounds in 11 patients with RDEB.

#### INDICATION

ZEVASKYN<sup>™</sup> (prademagene zamikeracel) is an autologous cell sheet-based gene therapy indicated for the treatment of wounds in adult and pediatric patients with recessive dystrophic epidermolysis bullosa (RDEB).

#### IMPORTANT SAFETY INFORMATION

Severe hypersensitivity reactions to vancomycin, amikacin, or product excipients may occur with ZEVASKYN application. Monitor for signs and symptoms of hypersensitivity reactions such as itching, swelling, hives, difficulty breathing, runny nose, watery eyes, nausea, and in severe cases, anaphylaxis and treat according to standard clinical practice.

# RDEB: A serious genetic disease with significant unmet need for long-lasting wound healing



RDEB wounds cause significant clinical burden, including pain, itch, and risk of SCC<sup>2</sup>

- RDEB is caused by mutations in both copies of the *COL7A1* gene<sup>2</sup>
- As a result, cells are unable to express functional type VII collagen protein, which is needed to form anchoring fibrils that bond the epidermis to the dermis<sup>2,3</sup>
- Lack of anchoring fibrils leads to fragile skin that blisters easily, and patients suffer from years of painful wounds and itch<sup>2,4</sup>
- RDEB wounds can lead to serious lifethreatening complications. Patients have up to a 90% risk of developing SCC<sup>5</sup>

For patients with RDEB, wounds can cover significant body surface area and are a constant source of severe pain and itch<sup>2</sup>



Photos are of 2 different patients.6



There is a critical unmet need for treatments that provide durable wound healing and pain and itch reduction<sup>2</sup>

SCC=squamous cell carcinoma.

# Designed for durable type VII collagen expression at the application site<sup>1</sup>

ZEVASKYN (ZEE-vah-skin) is made from patients' own skin cells that are genetically modified with copies of the functional *COL7A1* gene.<sup>1</sup>

- Autologous keratinocytes are isolated from skin punch biopsies, then transduced *ex vivo* with a retroviral vector containing the fulllength *COL7A1* gene
- The resulting gene-modified cellular sheets express functional type VII collagen (C7) protein
- Long-term presence of C7 and anchoring fibrils at treated sites<sup>1</sup>

Patients treated with ZEVASKYN were assessed for presence of both C7 and AFs.\*

- At 3 months, 86% of patients (6/7) were positive for both C7 and AFs
- At 6 months, 71% of patients (5/7) were positive for both C7 and AFs
- At 1 year, 43% of patients (3/7) were positive for both C7 and AFs
- At 2 years, 67% of patients (2/3) were positive for both C7 and AFs<sup>+</sup>

Assessment was elective and performed periodically because each test required a biopsy of healed skin. • Stable integration of the *COL7A1* gene is maintained through cell division at the treated site even after ZEVASKYN application

zevaskun™

(prademagene zamikeracel)

gene-modified cellular sheets

• Durable C7 expression results in the formation of anchoring fibrils (AFs)<sup>1,7</sup>



<sup>§</sup>Anchoring fibrils: C7 at the dermal-epidermal junction, resulting in AF formation<sup>1,4,7</sup>

\*In the Phase 1/2a study, C7 expression was assessed by immunofluorescence microscopy (negative cofactor 2 domain of C7 using the LH24 antibody) and anchoring fibrils were assessed by immunoelectron microscopy.

<sup>†</sup>One patient was positive for both C7 and AFs; one patient was positive only for C7 (as biopsy to assess AF was not obtained). <sup>†</sup>Immunofluorescence images.

#### **IMPORTANT SAFETY INFORMATION**

Retroviral vector (RVV)-mediated insertional oncogenesis may potentially occur after treatment with ZEVASKYN. Monitor patients lifelong after treatment for the development of malignancies. In the event that a malignancy occurs, contact Abeona Therapeutics Inc. at 1-844-888-2236.

## ZEVASKYN can close even tough RDEB wounds<sup>1</sup>

VIITAL: A Phase 3, randomized, intrapatient-controlled trial comparing ZEVASKYN with conventional wound management<sup>1,8\*</sup>





# Key endpoints (change from baseline at week 24)<sup>1,8</sup>

- ≥50% wound healing (coprimary)
- Pain reduction (coprimary)
- Complete wound healing (secondary)<sup>++</sup>
- ≥75% wound healing (exploratory)
- Itch reduction (exploratory)

#### Select baseline demographics<sup>1,8</sup>

- Median patient age: 21 years (range 6-40 years)
- Median body surface area treated with ZEVASKYN: 240 cm<sup>2</sup> (6 sheets)<sup>§</sup>

#### Select wound demographics<sup>1,8</sup>

- Each wound evaluated was ≥20 cm<sup>2</sup>
- Median wound duration: 5 years (range 6 months-21 years)

### ZEVASKYN achieved significant healing as evaluated at week 24<sup>1</sup>



- Complete healing achieved in 16% of ZEVASKYN-treated wounds (7/43) vs 0% of matched control wounds (0/43; P=0.0160)
- ~2 out of 3 ZEVASKYN-treated wounds (28/43) healed by 75% or more vs 7% of matched control wounds (3/43)<sup>8</sup>

C	2
F	7

In post hoc analysis of evaluated wounds at 6 weeks, 96% of ZEVASKYN-treated wounds (27/28) were healed by 50% or more vs 25% of control wounds (7/28)<sup>811</sup>

#### N=wounds, n=patients.

\*Supportive care, such as daily bandaging and palliative measures.<sup>8</sup> \*Wounds were assessed by investigator based on predefined criteria to score healing. Healing achieved at week 24 was confirmed at least 2 weeks later (week 26).<sup>1</sup>

\*Complete wound healing defined as complete re-epithelialization with no drainage or erosion, and no major crusting.
\*ZEVASKYN was placed on 57 wounds (43 randomized and 14 non-randomized); range of body surface area treated: 120-240 cm<sup>2</sup> (3-6 sheets).<sup>1,8</sup>
"Missing data were not imputed; observed cases only.<sup>8</sup>

#### IMPORTANT SAFETY INFORMATION

Transmission of infectious disease or agents may occur with ZEVASKYN because it is manufactured using human- and bovine-derived reagents, which are tested for human and animal viruses, bacteria, fungi, and mycoplasma before use. These measures do not eliminate the risk of transmitting these or other infectious diseases or agents.

### Before and after ZEVASKYN treatment<sup>6</sup>





Baseline

Week 24



Baseline

Week 24



Baseline

Week 24



Baseline

Week 24



Baseline

Week 24



Baseline

Week 24 Individual results may vary.

#### IMPORTANT SAFETY INFORMATION

The most common adverse reactions (incidence  $\geq$ 5%) were procedural pain and pruritus.

# Breakthrough technology: ZEVASKYN uses patients' own skin cells to treat RDEB wounds

(prademagene zamikeracel) gene-modified cellular sheets

Gene-modified cellular sheets can cover multiple small and large wounds<sup>1</sup>



Image is based on patient being approximately 5 feet tall.

#### APPLICATION

Up to 12 credit card-sized, genemodified sheets (each 41.25 cm<sup>2</sup>) are provided ~25 days after biopsy for surgical application.<sup>1,4</sup> Multiple individual wounds or larger areas can be treated with ZEVASKYN in a single session.<sup>3</sup>

#### IMPORTANT SAFETY INFORMATION

Inform patients and/or caregivers that manufacturing failure may occur with autologous products. In case of a manufacturing failure, a second manufacturing of ZEVASKYN could be attempted with a new biopsy.

# Example of wound healing at the end of Phase 1/2a long-term follow-up<sup>3</sup>





Individual results may vary.

- Study design: Open-label, single-arm, single-center<sup>1,9</sup>
- Patient population: 7 patients with RDEB; 38 chronic wounds assessed<sup>9</sup>
- Follow-up duration: Median 6.9 years (range 4-8 years); planned follow-up of 15 years<sup>9</sup>

I was very excited, and I was showing it off to everyone, and I was taking pictures, and I was looking in the mirror, and I was checking it out, and I was doing everything I could to see how it looked, and I was trying to move around a little bit, and I was just thrilled with the outcome.



-Antonio, patient treated with ZEVASKYN Individual results may vary.

#### **IMPORTANT SAFETY INFORMATION**

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# ZEVASKYN: Proven to reduce pain in treated wounds<sup>1,8</sup>



Reduction in pain and itch at week 24 in the VIITAL study

Mean pain reduction from baseline (coprimary endpoint)<sup>1\*</sup>



#### Mean reduction in itch severity from baseline<sup>8+</sup>





Oh, it was bad [before ZEVASKYN was applied]. It was constantly itching, and the medicine wasn't helping. And then [after ZEVASKYN was applied, there] was less itching...and less pain too. When it heals [after surgery], I don't feel itching. No more itching, no more pain.

-Guadalupe, patient treated with ZEVASKYN

Individual results may vary.

#### N=wounds, n=patients.

\*Pain was assessed via the Wong-Baker FACES® scale or numeric rating scale (0-10) following wound dressing change. For every postbaseline assessment, pain reduction is defined as postbaseline pain score minus baseline pain score.<sup>1,8</sup> †Itch severity was assessed using the Worst Itch-Numeric Rating Scale (WI-NRS), ranging from 0 (no itch) to 10 (worst itch imaginable).<sup>8</sup>

#### **IMPORTANT SAFETY INFORMATION**

Retroviral vector (RVV)-mediated insertional oncogenesis may potentially occur after treatment with ZEVASKYN. Monitor patients lifelong after treatment for the development of malignancies. In the event that a malignancy occurs, contact Abeona Therapeutics Inc. at 1-844-888-2236.

# Established safety profile



ZEVASKYN safety in 43 large, chronic wounds in 11 patients in the VIITAL Phase 3 study<sup>1,8</sup>

- Most common adverse reactions (incidence ≥5% of patients):
  - Procedural pain: 3/11 patients (27%)
  - Pruritus: 1/11 patients (9%)
  - All cases of procedural pain and pruritus were transient and resolved<sup>6</sup>
- No grade 3 adverse reactions were reported<sup>8</sup>

Additional long-term safety data from clinical trials<sup>8,9</sup>

- In 99 large, chronic ZEVASKYN-treated wounds across 18 patients
  - Median follow-up is 38.2 months (range 12 months-11 years)<sup>10,11</sup>
- No cases of SCC were reported in ZEVASKYN-treated wounds
  - SCC was observed in non-ZEVASKYN-treated sites in 4 patients<sup>11</sup>
- No instances of RCR positivity were reported<sup>§</sup>

### Hear ZEVASKYN stories from patients, caregivers, and experts



Simply scan this code

### **Refer to ZEVASKYN Qualified Treatment Centers\***





#### PRETREATMENT

- Patient's own keratinocytes are extracted from two 8 mm punch biopsies for starting material<sup>8</sup>
- After biopsy, the patient returns home while the cells are sent to Abeona Therapeutics, where they are genetically modified and grown into credit cardsized ZEVASKYN sheets<sup>1</sup>



#### TREATMENT

- ~25 days after biopsy, up to 12 ZEVASKYN sheets are provided for surgical application<sup>1,4</sup>
- Wound beds are prepared and ZEVASKYN is surgically applied under general or other appropriate anesthesia<sup>1</sup>



#### POSTTREATMENT

- Treatment areas are undisturbed for 5-10 days to allow for healing<sup>1</sup>
- Patient is discharged from the ZEVASKYN Qualified Treatment Center and follow-up is at physician's discretion

Early referral to a ZEVASKYN Qualified Treatment Center is critical to confirm patient eligibility and initiate treatment

### To find a ZEVASKYN Qualified Treatment Center:



Simply scan this code or <u>click here</u>



Call <u>1-855-ABEONA-1</u> (<u>1-855-223-6621</u>)

# Abeona Assist is here for your patients

A personalized support program providing comprehensive resources











References: 1. ZEVASKYN<sup>™</sup> (prademagene zamikeracel) Prescribing Information. Cleveland, OH: Abeona Therapeutics Inc; 2025. 2. Tang JY, Marinkovich MP, Lucas E, et al. Orphanet J Rare Dis. 2021;16(1):175. doi:10.1186/s13023-021-01811-7 3. So JY, Nazaroff J, Iwummadu CV, et al. Orphanet J Rare Dis. 2022;17(1):377. doi:10.1186/s13023-022-02546-9 4. Eichstadt S, Barriga M, Ponakala A, et al. JCI Insight. 2019;4(19):e130554. doi:10.1172/jci.insight.130554 5. Fine JD, Johnson LB, Weiner M, Li K-P, Suchindran C. J Am Acad Dermatol. 2009;60(2):203-211. doi:10.1016/j. jaad.2008.09.035 6. Data on file. Abeona Therapeutics Inc. 7. Siprashvili Z, Nguyen NT, Gorell ES, et al. JAMA. 2016;316(17):1808-1817. doi:10.1001/jama.2016.15588 8. Clinical study report EB-101-CL-301. Abeona Therapeutics Inc. 9. Clinical study report 14563/31095. Abeona Therapeutics Inc. 10. EB-101 SCS 120-Day Safety Update, Table 14. Abeona Therapeutics Inc. 11. Villanueva-Gaona R, Gorell ES, Marinkovich M, et al. JID. 2024;144(8):S171. doi:10.1016/j.jid.2024.06.1149

# Indication and Important Safety Information



#### INDICATION

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- Retroviral vector (RVV)-mediated insertional oncogenesis may potentially occur after treatment with ZEVASKYN. Monitor patients lifelong after treatment for the development of malignancies. In the event that a malignancy occurs, contact Abeona Therapeutics Inc. at 1-844-888-2236.
- Transmission of infectious disease or agents may occur with ZEVASKYN because it is manufactured using human- and bovine-derived reagents, which are tested for human and animal viruses, bacteria, fungi, and mycoplasma before use. These measures do not eliminate the risk of transmitting these or other infectious diseases or agents.
- The most common adverse reactions (incidence ≥5%) were procedural pain and pruritus.

#### Please see full Prescribing Information.

Notes
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# **Strong Bonds** Stand the Test of Time

Durable wound healing with a single surgical application–even in tough RDEB wounds<sup>1\*</sup>

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  - ~2 out of 3 ZEVASKYN-treated wounds (28/43) healed by 75% or more vs 7% of control wounds (3/43)<sup>8</sup>
  - Complete wound healing achieved in 16% of ZEVASKYN-treated wounds (7/43) vs 0% of matched control wounds (0/43; *P*=0.0160)
- ~3.5x reduction in pain in ZEVASKYNtreated wounds (-3.1) vs matched control wounds (-0.9; P=0.0002)
- Established safety profile with long-term follow-up<sup>11</sup>
  - The most common adverse reactions (incidence ≥5%) were procedural pain and pruritus<sup>1</sup>
- Refer your patients to ZEVASKYN Qualified Treatment Centers

\*Wounds treated had remained open for at least 6 months.

<sup>1</sup>Investigator-assessed; multi-center, randomized, intrapatient-controlled study with 43 ZEVASKYN-treated wounds vs 43 matched control wounds in 11 patients with RDEB.

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#### Please see additional Important Safety Information on page 13 and full Prescribing Information.



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When the nurse and doctor took off the bandage and I saw that new skin, when I saw it I just cried.

–Jessica, mom of Geovanna, who received ZEVASKYN

Individual results may vary.

<u>See long-term</u> follow-up images



To refer your patients for assessment, to find a ZEVASKYN Qualified Treatment Center, or for any questions: Scan code or call <u>1-855-ABEONA-1</u> <u>zevaskynhcp.com</u>