

# **Use as a therapeutic agent for atopic of GPCR19**

**Shaperon Inc.**

## **Contact Information**

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<b>Industry Sector</b>	Pharmaceutical
<b>Therapeutic Area</b>	Allergy
<b>Stage of Development</b>	Phase II

## 1. Summary

- A composition comprising Sodium Taurodeoxycholate and its derivatives of the present invention are excellent effects for treatment and improvement of the atopic dermatitis as compared to the conventional steroid ointment and immunosuppressive agent cream.
- In addition, the composition for prevention and treatment of atopic dermatitis of the present invention can be directly utilized as a pharmaceutical composition for the prevention and treatment of atopic dermatitis pathogenic factor by reducing the amount of serum immunoglobulin IgE.
- Currently, the worldwide therapeutic agent for atopic dermatitis are mainly are used the steroid agent and immunosuppressive drugs.
- They are the side effects of cancer and immunity problems, such as more severe or more prolonged use is impossible, but not limited to being used only for patients.
- In addition, the moisturizing agent without the side effect do not have a therapeutic effect that the atopic diseases are not completely recovered. It Has been recognized as incurable diseases.
- Sodium Taurodeoxycholate used in the present invention can be used to target a wide range of atopic patients.

## 2. Applications

- Can be used as atopic treatment and prevention / improvement Cosmetics of clinical medicine (Dermatology)

## 3. Market Feasibility

- The atopic dermatitis therapeutic are forecast to increase from \$3.9 billion in 2012 to \$5.6 billion by 2022, at a Compound Annual Growth Rate (CAGR) of 3.8%, says research and consulting firm GlobalData
- Growing at Growing at the same rate as the world market, domestic markets is expected to increase from 44.2 billion won in 2012 to 344 billion won by 2020

## 4. Type of Business Relationship Sought (include licensing availability)

- 1) Research collaboration or co-development

- 2) Manufacturing a customized diagnosis platform
- 3) Technology transfer

## **5. Technical Advantages**

- Low side effects compared to traditional therapies when Intravenous injection (single and repeated animal toxicity tests completed)
- Excellent atopic treatment effect compared to control drug
- Complete of short- and long-term stability testing
- IND approval complete with therapeutic use for the other therapeutic indications of source material

## **6. Technical Highlighted Summary**

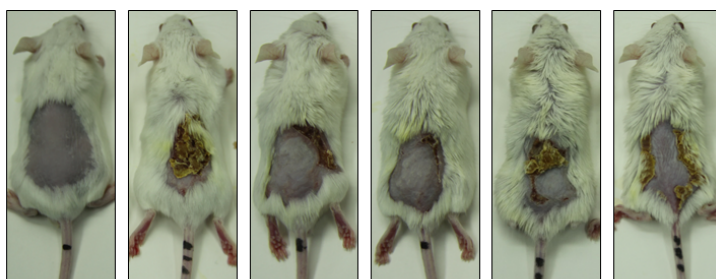
Commercialization potential

### **A. Sodium taurodeoxycholate**

- IND approval for Phase I clinical trial of sepsis treatment (Nov, 2012)
- Experimental results based on the preparation period can be shortened IND application (FDA complete discussion)

### **B. efficacy**

- The main effect
  1. Directly reduced the serum immunoglobulin IgE of the atopic dermatitis pathogenic factors.
  2. The present invention reduces serum TH2 cytokine and increases serum TH1 cytokine.
  3. Reducing the Mast cells in the dermis cells, eosinophils and infiltration of neutrophils
- Compared to the control group to the confirmed the excellent efficacy in Atopic dermatitis induced mice model. Control group are protopic and maxidex



DNCB	-	+	+	+	+	+
HY2191	-	-	+ (2.5%)	+ (5%)	-	-
protopic	-	-	-	-	+	-
maxidex	-	-	-	-	-	+

## 7. Mechanism (MOA)

- Sodium taurodeoxycholate is known as GPCR19 agonist of inflammatory cytokine and serves to lower the reaction at the time of endotoxin.
- Directly reduces the amount of immune serum globulin IgE, which is a major factor causing allergic dermatitis, and increases TH1 cytokine alleviating allergic dermatitis, reduces TH2 cytokine that exacerbates allergic dermatitis, and reduces infiltration of a mast cell, eosinophil, and neutrophil in dermis.
- This skin inflammation is relieved by reduce the absolute number of inflammation promote cells in atopic skin lesions.
- Inhibits the excessive inflammatory response to proliferation of bone marrow-derived immunosuppressive cells (MDSC) during intravenous.

## 8. Patent Information and Status

- In addition to PCT, the application under the Seoul National Academic R&DB Foundation supports progress in the current five countries (the US, Japan, China, EU, India)

## 9. Patent Number(s)

Title	Country	Patent Application No.	Original Assignee	Filing Date	Inventors
A composition for an atopic skin disease prevention or treatment that	Korea	2013-0100813	Shaperon	2013.8.	SY Seong YH Kim

contains ingredients for effective agents for GPCR19	PCT	PCT/KR2014/001819	Shaperon	2014.3.	SY Seong YH Kim
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## 10. Key Words

Atopic dermatitis, allergic dermatitis, Protopic, immunosuppressants, steroid ointments, IgE, etc.

## 11. Company Description

We are developing innovative new drug research using the world's first presented theory DAMP in the field of immune disease (Atopic dermatitis, blood poisoning, etc.).