

**TECH OFFER**

## Stress Relief Sleep Patch for Insomnia with Natural Components



### KEY INFORMATION

**TECHNOLOGY CATEGORY:**

Healthcare - Pharmaceuticals & Therapeutics  
Personal Care - Wellness & Spa  
Personal Care - Nutrition & Health Supplements

**TECHNOLOGY READINESS LEVEL (TRL):** TRL5

**COUNTRY:** SOUTH KOREA

**ID NUMBER:** TO175159

### OVERVIEW

Insomnia, particularly when caused by stress or anxiety, poses a significant challenge for many individuals. Traditional treatments, including sleeping pills, can be effective but often come with potential side effects and long-term dependency concerns. Addressing this issue, an innovative sleep patch has been developed to offer a non-invasive, drug-free solution for improving sleep hygiene.

This sleep patch is designed to tackle common sleep problems such as insomnia and irregular sleep patterns, particularly those triggered by stress and anxiety. Unlike conventional medications, the patch leverages natural products to promote relaxation and support continuous sleep without the adverse effects associated with long-term drug use. Clinical research, including stress experiments and polysomnography studies, has demonstrated the patch's ability to induce sleep for over 12 hours by alleviating stress. This makes it an ideal choice for individuals seeking a safe, effective alternative to conventional sleep aids.

The technology owner is looking for collaboration with local research institutions and universities to validate the effectiveness and safety of the product through comprehensive research and clinical trials.

## TECHNOLOGY FEATURES & SPECIFICATIONS

### 1) Sleep and Stress Relief Mechanism

- **Functionality:** This sleep aid is based on stress relief mechanism. In a stress relief test, the autonomic nerve stress index decreased by 40% after using the sleep patch. Similarly, the brain stress index experienced a 25% reduction.

### 2) Non-invasive Transdermal Delivery System

- **Form Factor:** Unlike oral medications, this patch delivers sleep-enhancing compounds directly through the skin, enabling prolonged sleep duration and improved sleep quality. This method minimizes the risk of digestive side effects and enhances the bioavailability of the active ingredients.

### 3) Natural Substances and Safety

- **Safety:** Formulated with natural substances verified for safety by to the Korean Food Pharmacopoeia standards.

### 4) Proven Effectiveness

- **Scientific Validation:** The product's efficacy is backed by in vitro studies and animal experiments, demonstrating significant improvements in sleep parameters.
- **Preliminary Clinical Study:** A preliminary clinical trial using polysomnography showed a 57% reduction in sleep onset time and a 20% increase in total sleep duration, contributing to better overall sleep hygiene.

## POTENTIAL APPLICATIONS

The **potential** applications are divided into categories in addressing specific sleep and stress-related needs across various demographics:

### Sleep-Related Applications

#### 1. Jetlag Relief

- **Target Group:** Frequent travelers and business professionals.
- **Application:** Helps adjust sleep cycles when crossing time zones, minimizing the impact of jetlag and improving overall travel comfort.

#### 2. Shift Workers

- **Target Group:** Night shift workers, healthcare professionals, and emergency responders.
- **Application:** Assists in regulating sleep for those with irregular work hours, ensuring they can achieve restorative sleep during the day or between shifts.

#### 3. Elderly Care

- Target Group: Older adults in home care or assisted living facilities.
- Application: Supports better sleep patterns in the elderly, who may struggle with insomnia or frequent nighttime awakenings.

## Stress and Mental Health Applications

### 1. Stress Management

- Target Group: High-stress professionals, caregivers, and individuals in demanding roles.
- Application: Integrates into daily routines to alleviate stress and promote relaxation, leading to improved sleep and overall mental well-being.

### 2. Mental Health Support

- Target Group: Patients with anxiety, depression, or other mental health conditions.
- Application: Offers a non-invasive, natural aid to improve sleep quality, which is often disrupted in individuals facing mental health challenges.

### 3. Corporate Wellness Programs

- Target Group: Employees in high-pressure work environments.
- Application: Included in corporate wellness initiatives to reduce stress, enhance sleep, and ultimately boost productivity and job satisfaction.

## UNIQUE VALUE PROPOSITION

- **Safe and Non-Depressant:** Unlike traditional melatonin and serotonin patches, this sleep patch addresses and minimizes the risk of depressive symptoms, making it a safer option for individuals with mood concerns or those who have experienced adverse effects from melatonin.
- **Versatile and Accessible:** The patch is suitable for both short-term and long-term sleep issues and can be conveniently purchased over-the-counter.
- **Effective for Diverse Needs:** Ideal for various applications, including managing jetlag for travellers, supporting shift workers, and improving sleep in elderly care. It is designed to cater to a broad range of users looking for a non-pharmaceutical sleep solution.
- **Ease of Use:** The transdermal delivery system provides a straightforward and non-invasive alternative to oral sleep aids.