

Elcode

by tecnalia

Smart Active Transdermal Patches
for **DRUG ADMINISTRATION.**

ELCODE:

What is it?

ELCODE is a system for iontophoretic transdermal delivery of active substances.

ELCODE is a disposable patch comprising programmable discharge element, iontoporetic electrodes and active substance loaded reservoir.

ELCODE can be used for delivery of various active substances in health care and cosmetic applications.

How does it work?

Electrical stimuli and hydrogel technology are combined in order to achieve the local and systemic delivery of drugs with restricted administration routes.



Asset Situation



- The transdermal patch prototype is now fully developed and the active transport of drugs has been confirmed, with four proof-of-concepts including: an anti-inflammatory, an analgesic, an anxiolytic and an antiviral.

- A porcine skin model has been developed (*in vitro test*) to test the aforementioned drugs.
- A patent has been registered to protect different applications and electrode models. **EP14382362.3**
- A Murine model *in vivo*, expected to verify a more controlled transport and increased bio availability of the model drug selected, will be conducted throughout 2016.

Product Differentiation

ELCODE has significant advantages over current systems:

- ELCODE device is scalable in size. Non-invasive. Easy placement and handling. Flexible and light to adapt to the human body.
- Low-cost system.
- Minimises the appearance of erythema due to the electric current.
- Controlled drug release.
- Measured dosage. May be systemic or local depending on the programming conditions of the system.
- For domestic or hospital use.
- Includes preview software aimed at predicting drug administration in the right place and time.
- Its advanced platform, designed to generate iontophoretic stimuli in DC or in pulse mode, uses voltage as well as power control.

Application

- Diagnosis of allergies: to increase accuracy, sensitivity and patient comfort while reducing the assessment.
- Immunisation and vaccination: avoiding the need for hypodermic needles, administration of the vaccine could improve immune response due to the orientation of the immunogenic cells in the skin.
- Treatment of perimenopausal symptoms and osteoporosis: some therapeutic agents show metabolising problems in the gastrointestinal tract and liver due to the use of injections.
- Delivery and release of hyaluronic acid.

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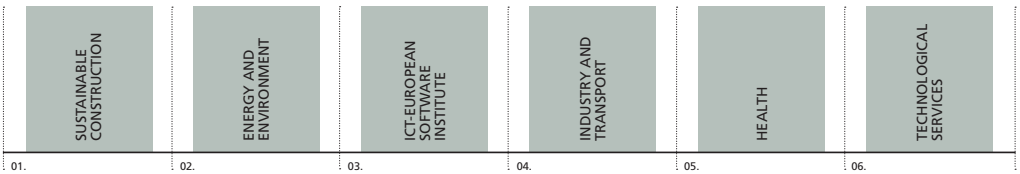
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