

HYTANBIO

CHANGZHOU BASE

MICRONEEDLE PRODUCT PORTFOLIO

Manufacturing & Customization

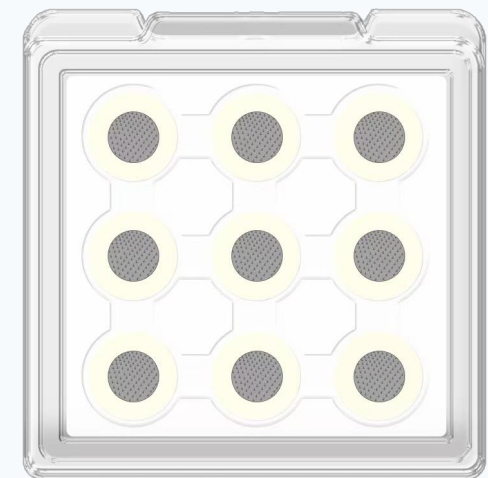
Dissolving HA patches / Solid PLA tools / Transdermal concepts



PLA DELIVERY TOOLS



DISSOLVING EYE PATCHES



MICRONEEDLE PATCHES



PORTFOLIO GUIDE

A portfolio built around your product brief

Two material platforms. A coordinated route from product configuration to packaging.

01	Manufacturing & characterization	03-04
02	Product & packaging customization	05-06
03	PLA tools & roller systems	07-11
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SPECIFICATION KEY

HA Hyaluronic acid

PLA Polylactic acid

Needle height Nominal array geometry

Needle count Per patch or roller, as stated

Pack format Number of patches per pack

Formulation profiles shown on separate pages represent different product configurations. Final geometry, formulation and packaging are specified for each project.



CAPABILITIES

Manufacturing platforms

Dissolving microneedle forming and solid PLA microneedle tooling.



Dissolving microneedle forming

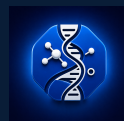
HA and other water-soluble matrices support patch development through formulation design and controlled forming processes.



Solid PLA microneedle forming

PLA structures are produced through molding. Development covers microneedle sheets, delivery tools and related component geometries.





CAPABILITIES

Characterization & performance evaluation

A combination of imaging, mechanical characterization and formulation-related evaluation.



Contour imaging



Automated axial positioning



Mechanical characterization



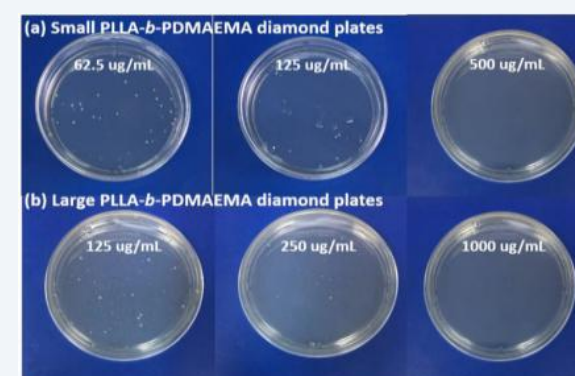
Confocal microscopy



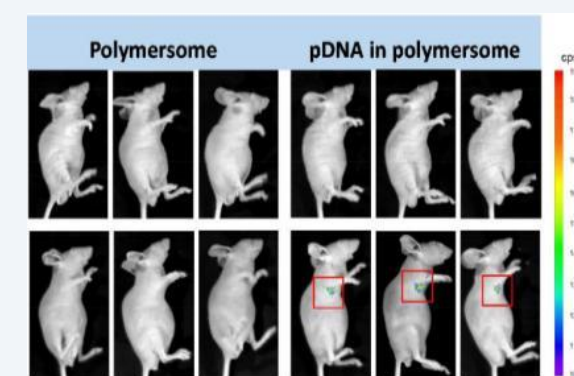
Composition & loading



Permeation & dissolution



Antibacterial evaluation



In vivo evaluation

Evaluation scope: morphology and defects; mechanical reliability; biocompatibility; permeation and dissolution; composition, loading and stability.



PRODUCT CUSTOMIZATION

Customize the array, shape and formulation

Configure the platform around the intended application and product format.

Needle geometry

Height options in the supplied range

100-500 μm : eye, sensitive-skin and acne formats

600-800 μm : professional anti-wrinkle and repair concepts

800-1,000 μm : body-care concepts

Needle spacing: 500-1,000 μm

Patch shapes

Standard formats

Round; rounded square; crescent eye patch;

T-shaped nasal patch.

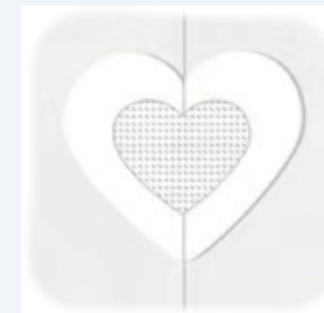
Custom tooling

Nasolabial strips, contour shapes, larger body patches and specialty designs.

Formulation development

Water-soluble small-molecule actives can be incorporated into dissolving matrices.

Development includes active selection and loading, carrier compatibility, formulation optimization, trial samples and production support.



Geometry ranges are configuration options, not a statement of penetration depth. Patch size, color and active loading are finalized against the project brief.



PACKAGING

Packaging customization

Inner pouches, thermoformed trays and outer cartons can be coordinated as one product presentation.



Packaging configuration

Standard: gray aluminum-foil pouch.

Custom: inner foil pouch and outer carton. Foil packaging provides moisture, light and oxygen barriers.

Packaging material, finish and dimensions can be adapted for the patch, inner pack and outer pack.

Two artwork routes

Design service

Layout development covering the logo, product information and directions for use. Approved artwork proceeds to sampling and production.

Customer-supplied artwork

Printing and packing to complete artwork files supplied by the customer.



SOLID MICRONEEDLE TOOLS

PLA delivery heads

Four component formats for topical delivery systems. Needle geometry and appearance can be customized.

MATERIAL: PLA | NEEDLE HEIGHT: 200-300 μm | RESERVOIR OPTIONS: 3 / 5 mL

Press-type delivery head



Needle material: PLA
Needle height: 200-300 μm
Needle count: 36
Reservoir: 3 / 5 mL

Stamp-type delivery head



Needle material: PLA
Needle height: 200-300 μm
Needle count: 36
Reservoir: 3 / 5 mL

Push-type delivery head



Needle material: PLA
Needle height: 200-300 μm
Needle count: 36
Reservoir: 3 / 5 mL

Roller-type delivery head



Needle material: PLA
Needle height: 200-300 μm
Needle count: 120
Reservoir: 3 / 5 mL

Application positioning: topical serum delivery, skin-firming concepts and skin-repair routines. Available for geometry, format and appearance development.



SOLID MICRONEEDLE TOOLS

PLA applicator patches & silicone pad

Solid microstructures for topical-serum application and skin-care tool development.

PATCH OPTIONS: 300-1,000 μm NEEDLE HEIGHT | CLEAR COLOR; CUSTOM COLORS AVAILABLE

Cat-paw applicator patch



Needle material: PLA
Needle height: 300-1,000 μm
Appearance: Clear; customizable
Dissolution: Non-dissolving

Round applicator patch



Needle material: PLA
Needle height: 300-1,000 μm
Appearance: Clear; customizable
Dissolution: Non-dissolving

Silicone pad



Accessory: Silicone pad
Compatibility: PLA applicator patches
Supports the applicator-patch format shown.

Application positioning: topical delivery, anti-aging and skin-repair concepts. Needle geometry, specification and appearance can be developed to brief.



TOOL CONFIGURATIONS

Vial & syringe-compatible delivery tools

Additional product configurations and packaging details.

Roller-style vial head



Needle material: PLA

Structure: non-dissolving microneedle array

Intended function: skin-channel formation for topical ingredient delivery.

Packaging: sterile paper-plastic pouch

Pouch size: 9 × 9 cm

Stamp-style vial head



Needle material: PLA

Structure: non-dissolving microneedle array

Intended function: skin-channel formation for topical ingredient delivery.

Packaging: sterile paper-plastic pouch

Pouch size: 9 × 9 cm

Syringe-compatible head



Needle material: PLA

Structure: non-dissolving microneedle array

Intended function: skin-channel formation for topical ingredient delivery.

Packaging: sterile paper-plastic pouch

Pouch size: 9 × 9 cm



TOOL PACKAGING

PLA sheets & roller variants

Solid-array tools with thermoformed-tray and aluminum-pouch packaging.

PLA microneedle sheets



Material: non-dissolving PLA microneedles

Intended function: skin-channel formation for topical delivery.

Packaging: thermoformed tray + aluminum pouch

Tray: 9 × 9 cm

Pouch: 11 × 16 cm

PLA skin rollers



Material: non-dissolving PLA microneedles

Intended function: skin-channel formation for topical delivery.

Packaging: thermoformed tray + aluminum pouch



ROLLER SYSTEMS

Microneedle roller portfolio

Dissolving HA formats, solid PLA formats and a replaceable head configuration.

NEEDLE HEIGHT: 300-1,000 μm | ARRAY COUNT: 2,100 NEEDLES

PLA skin roller



Needle material: PLA
Needle height: 300-1,000 μm
Needle count: 2,100
Array type: Non-dissolving

HA skin roller



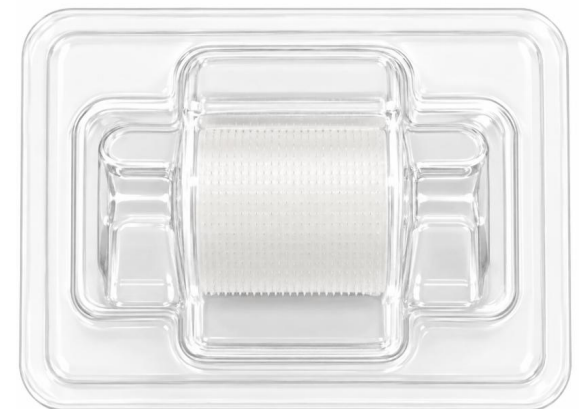
Needle material: Hyaluronic acid
Needle height: 300-1,000 μm
Needle count: 2,100
Array type: Dissolving

Gold-finish HA roller



Needle material: Hyaluronic acid
Needle height: 300-1,000 μm
Needle count: 2,100
Array type: Dissolving

Replacement roller head



Needle material: Hyaluronic acid
Needle height: 300-1,000 μm
Needle count: 2,100
Array type: Dissolving



COSMETIC PATCHES

Dissolving microneedle eye patches

HA-based arrays in standard, peptide and partial-coverage formats.

NEEDLE MATERIAL: HYALURONIC ACID | NEEDLE HEIGHT: 300-1,000 μm

Standard eye patch



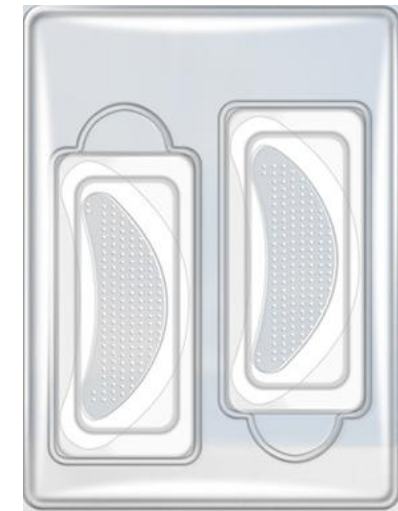
Needles per patch: 350
Needle height: 300-1,000 μm
Customization: Size and color

Peptide eye patch



Needles per patch: 750
Needle height: 300-1,000 μm
Customization: Size and color

Partial-coverage eye patch



Needles per patch: 350
Needle height: 300-1,000 μm
Customization: Size and color

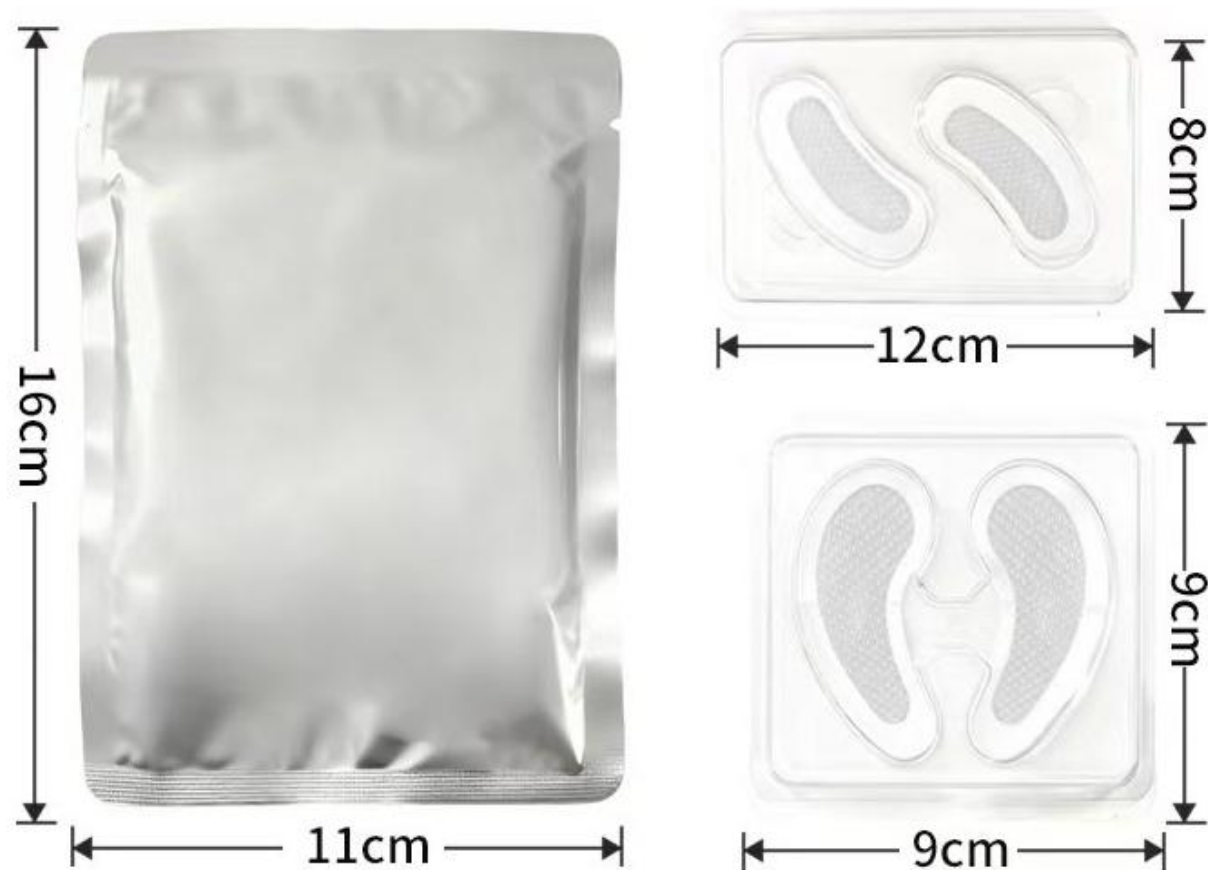
Peptide formulation reference: Acetyl Hexapeptide-8, Hexapeptide-9 and Tripeptide-1.



EYE-PATCH CONFIGURATION

Eye-patch formats, dimensions & options

Original pack illustrations are shown with their stated dimensions.



Illustrated presentation

Tray formats: 12 × 8 cm / 9 × 9 cm

Foil pouch: 11 × 16 cm Pack: 1 pair

Service: OEM / ODM and complimentary samples

Custom colors & formats



Backings: PE, PU, TPU or hydrocolloid

Tray: customizable

Color palette: clear, yellow, purple, orange, blue, pink and custom colors

Dimensions: customizable



COSMETIC PATCHES

Dissolving microneedle acne patches

Six pack formats with a common HA-based needle-array specification.

HYALURONIC ACID | 300-1,000 μm | 110 NEEDLES PER PATCH

1 patch / pack



2 patches / pack



3 patches / pack



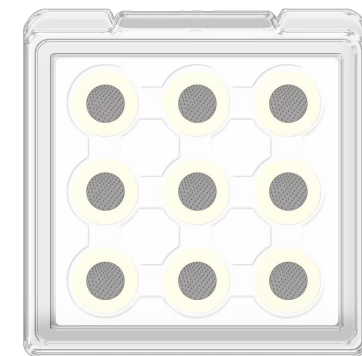
6 patches / pack



8 patches / pack



9 patches / pack



Formulation reference: salicylic acid, asiaticoside and PDRN.

Custom options: PE / PU / TPU / hydrocolloid backing, tray, size and color.



COSMETIC PATCHES

Targeted facial microneedle patches

Lip, forehead, glabellar and dark-spot formats.

NEEDLE MATERIAL: HYALURONIC ACID | NEEDLE HEIGHT: 300-1,000 μm

Lip patch



Needles per patch: 350
Listed wear time: 2-4 hours
Size / color: Customizable

Forehead patch



Needles per patch: 750
Listed wear time: 2-4 hours
Size / color: Customizable

Glabellar patch



Needles per patch: 450
Listed wear time: 2-4 hours
Size / color: Customizable

Dark-spot patch



Needles per patch: 500
Listed wear time: 3-6 hours
Size / color: Customizable

Formulation reference: niacinamide and glabridin.

Custom options: backing material, thermoformed tray, color and dimensions.



FORMULATION OPTIONS

Beauty formulations: additional profiles

These profiles describe separate configurations from the geometry-led formats on the preceding pages.

Acne-care patch



Ingredients

Plant-derived salicin, madecassoside, Sophora flavescens root extract and sodium hyaluronate.

Product positioning

Acne care and the appearance of post-acne marks.

Stock packs: 6 / 8 / 9 patches

Eye-care patch



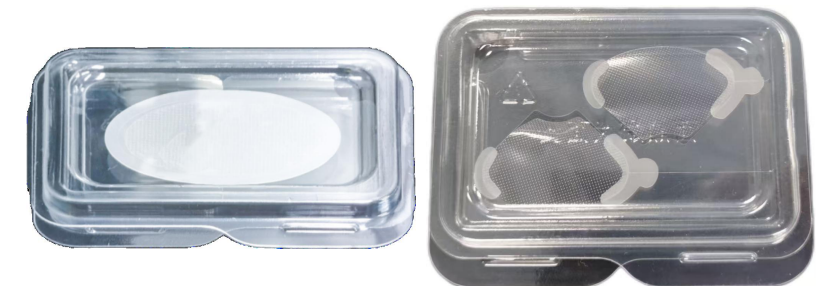
Ingredients

Hyaluronic acid in three molecular-weight grades, plant-derived salicin and niacinamide.

Product positioning

Fine-line care, skin firmness and the appearance of eye bags and dark circles.

Dark-spot patch



Ingredients

Hyaluronic acid in three molecular-weight grades, plant-derived salicin and niacinamide.

Product positioning

Brightening and the appearance of pigmentation and dark spots.



WELLNESS-ORIENTED CONCEPTS

Dissolving microneedle sleep patches

Six pack formats for the HA-based sleep-patch platform.

HYALURONIC ACID | 300-1,000 μm | 150 NEEDLES PER PATCH

1 patch / pack



2 patches / pack



3 patches / pack



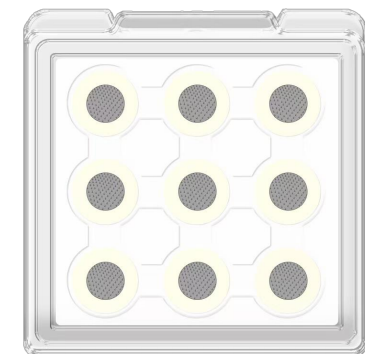
6 patches / pack



8 patches / pack



9 patches / pack



Formulation reference: melatonin, gamma-aminobutyric acid (GABA) and sour jujube seed extract.

Custom options: backing material, tray, color and dimensions.



WELLNESS-ORIENTED CONCEPTS

Wellness patch array specifications

Product configurations for body care, alcohol-metabolism support, joint care, nasal care and smoking-cessation concepts.

NEEDLE MATERIAL: HYALURONIC ACID | NEEDLE HEIGHT: 300-1,000 μm | LISTED WEAR TIME: 3-6 HOURS

Peptide body-shaping patch



Needles / patch
500

Needle height
300-1,000 μm

Wear time
3-6 hours

Alcohol-metabolism patch



Needles / patch
500

Needle height
300-1,000 μm

Wear time
3-6 hours

Joint-care patch



Needles / patch
1,500

Needle height
300-1,000 μm

Wear time
3-6 hours

Nasal-care patch



Needles / patch
500

Needle height
300-1,000 μm

Wear time
3-6 hours

Smoking-cessation patch



Needles / patch
3,000

Needle height
300-1,000 μm

Wear time
3-6 hours

Configuration options

Backings: PE, PU, TPU or hydrocolloid.

Dimensions, color and tray format can be adapted to the product brief.

Formulation profiles are listed on the next page.



FORMULATION OPTIONS

Wellness formulation profiles

Ingredient references for the five array formats shown on the preceding page.



Peptide body-shaping patch

GLP-1-related active ingredients.



Alcohol-metabolism patch

Alcohol dehydrogenase and aldehyde dehydrogenase.



Joint-care patch

Turmeric-derived extracellular vesicles and Dipsacus-derived extracellular vesicles.



Nasal-care patch

Xanthium fruit, Centipeda minima, magnolia flower bud and honeysuckle extracts.



Smoking-cessation patch

Broom-flower extract*, kudzu extract and Houttuynia extract.

* The supplied common name does not identify the botanical species. Confirm the exact botanical identity in the approved formulation specification.



FORMULATION OPTIONS

Additional wellness & scalp-care profiles

Distinct formulation configurations with their own ingredient and pack references.

Sleep-support patch



Ingredients: GABA, vitamin B6, melatonin, sodium hyaluronate and valerian root extract.

Positioning: Sleep support, including sleep difficulties associated with tension and anxiety.

Pack options: 6 / 9 patches

Hair & scalp-care patch



Ingredients: Edelweiss-derived exosomes, Tripeptide-1 and Type XIV collagen.

Positioning: Follicle activation, growth-phase support and scalp condition.

Pack options: 4 / 6 / 9 / 12 patches

Body-shaping patch



Ingredients: Capsaicin, HA in three molecular-weight grades, plant-derived salicin and niacinamide.

Positioning: Body-shaping and metabolism-support concepts.

Pack options: 3 / 4 patches

Smoking-cessation patch



Ingredients: A blend of botanical extracts.

Positioning: Nicotine-craving management, emotional balance and relapse-urge support.



OEM / ODM COLLABORATION

From product brief to finished presentation

Coordinate patch geometry, formulation, components and packaging within one development brief.

01

Define the brief

Application, user group
and target product format.

02

Confirm configuration

Material, needle geometry,
actives and pack format.

03

Develop samples

Formulation trials and
product-format evaluation.

04

Approve artwork

Logo, product information,
directions and packaging.

05

Produce & pack

Confirmed specifications,
packaging and delivery.

Define the product

Material platform and intended application
Needle height, count and spacing
Patch shape, dimensions and color
Ingredient profile and active loading
Backing and thermoformed tray

Define the presentation

Patches per pack and component dimensions
Inner pouch and outer carton materials
Customer artwork or design-service route
Logo, labeling and directions for use
Sample and production specification



HYTANBIO

CHANGZHOU BASE

MICRONEEDLE PRODUCTS & CUSTOMIZATION

Dissolving patches

Solid PLA tools

OEM / ODM

PRODUCT CONFIGURATION / FORMULATION / PACKAGING