

What does it do?

The 3 S-Biokit set is a quick, easy and economical method for taking skin surface strippings in a least invasive way.

The Principle

The 3 S-Biokit works with a fast hardening cyanoacrylate glue to remove a superficial layer of the stratum corneum (a thickness of 2-3 cells). The glue polymerizes under slight pressure and generates a compound with the same optical properties as glass. This biopsy gives information on the in-vivo state of the stratum corneum. It can be dyed and examined under a microscope.

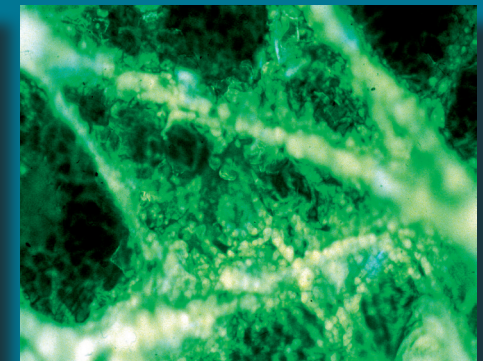
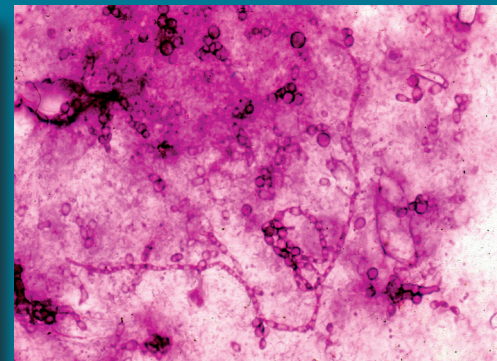
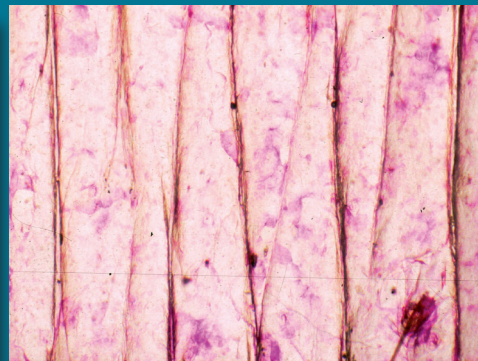
Fields of Application

The stratum corneum holds a variety of information, not only on the skin itself, but also on the metabolism of the complete body. Therefore biopsies of the skin surface play an indispensable role in dermatology, veterinary medicine and other applications.

- Looking at the skin topography.
- Diagnosis of a large variety of diseases (e.g. dermatitis, xerosis, parasites, mycosis, melanoma).
- Immunostaining to detect special proteins.
- Alternatively it may be used as a very quick, safe and time saving method for standardized skin surface strippings or induced irritation.

Advantages

- variety of diagnostic possibilities
- biokit set extremely economical
- minimal invasive
- very quick and safe method for stratum corneum biopsies
- easy handling
- high and long lasting stability without special storage conditions
- established method, known for more than 30 years
- many scientific studies are available



Technical Data

cyan acrylic acid ethyl ester 5g

Sample carrier: PET foil

This product is made by Skin Surface Technology in Belgium and is distributed by Courage+Khazaka.

Please also visit www.skin-surface-technology.com

Technical changes may be made without prior notice.

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Literature List (small selection)

- C. Pierard, G. Pierard, **Cyanoacrylate Skin Surface Stripping for Visualizing Stratum Corneum Structures and Dynamics, Cyanoacrylate skin stripping (CSSS)** came into existence when High-bond glues became available. The introduction of the polyethylene slide used to take the sample was a decisive new stage in the development of this technique. The necessary materials are presented in Table 7.1.
- R. Dawber, **Skin Surface Biopsy and the Follicular Cast**, CRC Press 1995, chapter 5.5, pp. 121-123. The technique of skin surface biopsy (SSB) was first described by Marks and Dawber. It is a simple, non-invasive method, removing only dead tissue, used to study the stratum corneum as a cohesive membrane, its constituent corneocytes and their relationship to each other, the many types of pathology within this compartment, and a vast array of microorganisms that may colonize or invade the layer.
- G. Pierard, **EEMCO guidance for the assessment of dry skin (xerosis) and ichthyosis: evaluation by stratum corneum strippings**, *Skin Research and Technology* 1996; 2; 3-11 Evaluation of scaliness in xerotic and ichthyotic conditions is conveniently addressed by stratum corneum strippings. The assessment of scaling conditions by stratum corneum stripping methods may be validly used in the laboratory. Interpretations, however, must be cautious. Direct extrapolations with respect to the water content in the stratum corneum should be avoided.
- Richard Marks, **A Deeper Look Into The Superficial Layers Of The**

Skin, *Retinoids Today and Tomorrow* 1996, Issue 43. The boundary of self from non-self is defined by the outermost part of the skin. It provides the chemical barrier that grudgingly permits the egress of water and impedes the penetration of microbes, xenobiotics and other antigens.

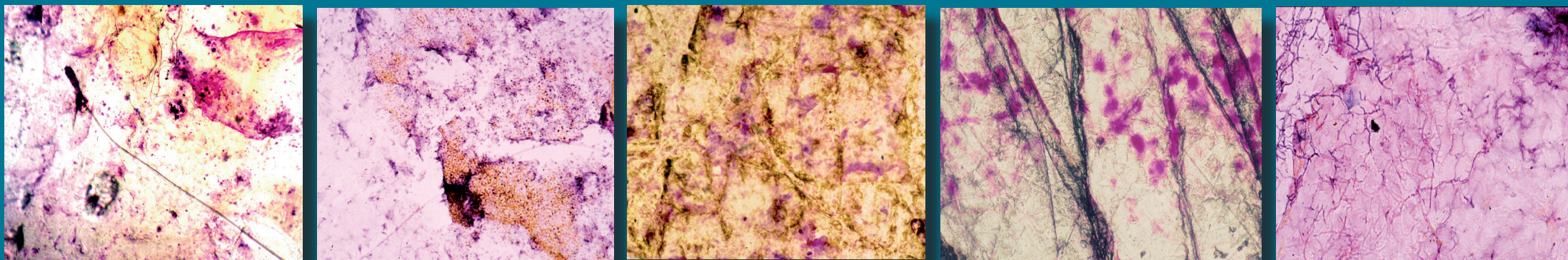
A. Pagnoni, A. M. Kligman, T. Stoudemayer, **Image Analysis of Cyanoacrylate Follicular Biopsies**, CRC Press, chapter 9, pp. 113-119, 1997. The cyanoacrylate follicular biopsy (CFB) is the most reliable tool to sample the follicular contents of facial skin. In 1971, Marks and Dawber introduced the cyanoacrylate "skin surface biopsy" to study the stratum corneum. This polymer removes the outermost horny layer as a sheet. They showed how this quick and convenient method could be used to examine the glyphic pattern, to search for fungi, or to study diseases in which the stratum corneum is prominently involved.

G. E. Piérard, **Cyanoacrylate biopsy for cytologic evaluation of the epidermis**, Department of Dermatopathology, University Hospital Sart Tilman, Liège, Belgium. Cyanoacrylate skin surface stripping (CSSS) is a time-honoured method. After its clever discovery, it was soon applied for diagnostic purposes. Sampling on polyethylene slide was a decisive improvement in the development of this method.

G. W. Nam, S. H. Kim, E. J. Kim, J. H. Kim, B. G. Chae, H. K. Lee, **How Skincare Ingredient Concentrations Can Modulate the Effect of Polyols and Oils on Skin Moisturization and Skin Surface Roughness**, *IFSCC Magazine*, Vol. 9, No. 1 2006. The aim of this study was to evaluate the influence of different skincare ingredient concentrations on the

effect of polyols and oils on human skin moisturization and skin surface roughness.

- Sparavigna, A. Di Pietro, M. Setaro, **Sensitive skin: correlation with skin surface microrelief appearance**, *Skin Research and Technology* 2006; 12, pp. 7-10. Sensitive skin has been defined as a condition associated with reduced cutaneous tolerance to environmental factors, such as cold, heat and wind, and/or frequent or prolonged applications of some topical products, such as cosmetics.
- André Rougier, Gerald Pierard, **Nudging acne by topical beta-lipo-hydroxy acid (LHA), a new comedolytic agent**, *AB15 J AM ACAD DERMATOL* Beta-lipohydroxy acid (LHA) is a lipophilic derivative of salicylic acid. It exhibits a potent keratolytic effect caused by the dissociation of the comedodesmosomes in the outermost layers of the stratum corneum. In addition, topical applications of a 2% LHA formulation increased the thickness of the epidermal germinative layers, stratum malpighi, and filaggrin layer.
- Pascale Quatresooz, Emmanuelle Xhaufaire-Uhoda, Claudine Piérard-Franchimont, Gérald E. Piérard, **Regional variability in stratum corneum reactivity to antiseptic formulations**, *Contact Dermatitis* 2007; 56; pp. 271-273 Skin does not react in an identical way to the action of chemicals over all anatomic sites. Accordingly, distinct regional differences have been described in relation to irritancy. The present study assesses the regional variations of stratum corneum (SC) reactivity to 3 proprietary antiseptic solutions.



We thank Prof. Pierard, University of Liège, Dermatological Department for the images.

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