



# DNA Pro smartMARK

DNA Anti-counterfeiting Technologies

POWERED BY:



## DNA PROTECTED

Crime prevention & Software

*An anti-counterfeiting system that utilizes microencapsulated polymorphic DNA fragments for the marking of security documents as a biological fingerprint. Complex security barriers make it impossible to replicate by any would-be counterfeiter and also facilitates instant verification of the presence of customer specific DNA with a simple low cost portable device and a Bluetooth enabled mobile device. The device identifies the specific document DNA signature, sending the results to any authorized mobile unit for review.*

## The PRODUCT:

**DNA Pro smartMARK** harnesses the power of the genetic code to provide solutions to the growing worldwide problems of counterfeiting, forgery and product diversion. The technology employs unique **DNA** gene segments and other biological markers in combination with exclusive optical indicators to represent the most effective anti-counterfeiting brand protection technology available.

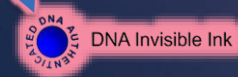
## Application

This DNA Matrix is incorporated into conventional quality printing inks, dyes, paints and resins that can be inexpensively applied during printing or as part of standard manufacturing. As the **DNA ProsmartMARK** it is widely usable, applied to stickers, swing tags or directly to product or packaging for instant verification of authenticity. A donor-supplied code can be used with marketing and promotional advantages, or a laboratory code generated specifically to the company or product

## Capabilities

The optical component of the Matrix incorporates special optical indicators that are relatively unknown to the counterfeiting arts. These indicators allow instant visual or electronic verification of the presence and authenticity of the mark using a special laser scanner tuned to specific spectral/temporal signals. These optical labels, used in some currencies, provide a sophisticated anti-counterfeiting method on their own. Their combination with DNA provides everyday instant verification of product, along with the ultimate security of DNA, if required in a legal contest.

150% Enlargement



Laser reader

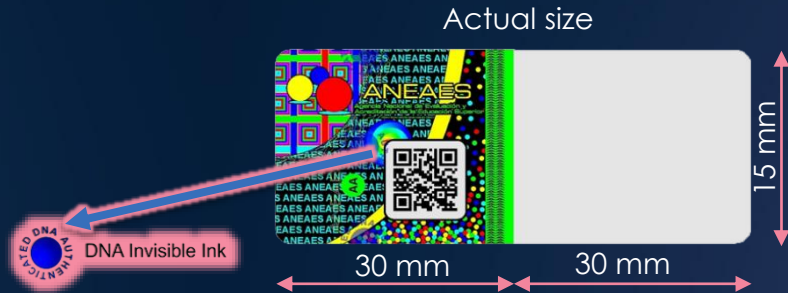


Laser Reader - A small hand-held device capable of reading DNA codes generated in our laboratory. The device reads and identifies the specific customer, document or product DNA signature and sends the result to any authorized mobile device. Our mobile app interprets the signal and displays the result on the device screen.

## Key Innovation:

The DNA component of the Matrix is a secret selection from trillions of available DNA oligomers; the presence of this selected code can only be determined by knowing the answer. It is a unique marking system combining economy, ultimate security, and tracking.

Base DNA Pairs	No. of Variations	Technical Specifications
10	1.05 million	# of Base Pairs: >100
15	1.07 billion	# of Sequences: => 2
20	1.10 trillion	Minimum Temp: >0°C
25	1.13 quadrillion	Maximum Temp: <170°C
		Humidity: 0 to 80% Film Thickness: 5µm



## Features:

- Instant visual or electronic verification of the security mark via hand held scanners.
- Secret DNA code** - virtually impossible to decipher or duplicate - trillions of codes available – 100 base pairs used in codes
- DNA component** is well known by courts as “proof positive” for conviction of counterfeiters or defence of the company’s integrity
- DNA code is** designed to discriminate against attempts to simulate the DNA to circumvent security
- Either component** can be changed to provide unique encoded information suitable for identification and tracking
- May be applied visibly** or can be invisible to the Brand Owner, customer and counterfeiter
- Sequential numbering** may be applied to all stickers and swing tags for additional tracking
- Distribution of **DNA Pro smartMARK**, and the DNA Matrix used to make them, is fully controlled, tracked and audited to prevent over-runs and application to unauthorized product
- Quality control – all stickers, swing tags and marked product are checked and supplied in exact quantities
- Longevity - Our laboratory has a continual monitoring and testing program of all DNA product supplied to ensure they meet customer’s requirements
- Used and proven on 100 million products from Sydney Olympic merchandise to Rugby World Cup, from casino chips to sportswear, from international wines to artwork



## Let's talk!

OUR INDUSTRY EXPERIENCE ENABLES US TO UNDERSTAND PROTOCOLS AND PROCESSES IN DESIGN, PACKAGING, COMPLIANCE AND DISTRIBUTION

We can provide a consultancy service to assess requirements or we will work on brief based on

Scope of Works provided.

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This enables us to ensure that costs of implementation are managed efficiently. We understand that the perception of cost may challenge budget considerations, however the cost is negligible when amortized in the production process and will save brands considerable revenues by protecting their markets



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