SAMPLE INTEGRITY

iPLEX® Pro Sample ID Panel

For Toxicology Applications

For Research Use Only.
Not for use in diagnostic procedures.

Agena® BIOSCIENCE

Minimize Tampering & Confirm Accurate Results

TOXICOLOGY CHALLENGES

Toxicology screenings can be compromised by sample swapping, manipulation, and adulteration. Additionally, positive results are often questioned, leaving labs to justify their accuracy.

Specimen validity testing (SVT) is a critical piece of toxicology screening and is regularly employed to determine if a urine specimen is abnormal or has been tampered with. However, standard specimen validity testing such as creatinine, oxidants, pH, nitrates, and specific gravity cannot detect certain methods of sample manipulation, such as urine substitution or synthetic urine, leading to inaccurate results.

COST-EFFECTIVE GENETIC FINGERPRINTING

The iPLEX® Pro Sample ID panel provides more robust protection vs. traditional specimen validity testing. Using genetics and the MassARRAY® System, it accurately confirms positive results and detects fraudulent samples.

The panel uses 44 single nucleotide polymorphisms (SNPs), patterns of DNA revealed by a PCR reaction, to cost-effectively generate a sample's unique genetic fingerprint. This fingerprint is used to match a test sample to the individual who submitted it, either confirming that it is valid or alerting the laboratory that a manipulation or mix-up has occurred.

Confidence through Genetics

With a High Power of Discrimination

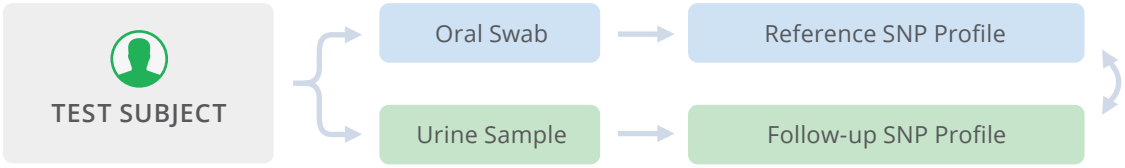
USES **>25** SNPs

NO LESS THAN **1 in 45 Billion** CHANCE OF FALSE MATCH

25 SNPs	Chance of False Match: **1 in 44.5 Billion**
30 SNPs	Chance of False Match: **1 in 6.01 Trillion**
40 SNPs	Chance of False Match: **1 in 109 Quadrillion**
44 SNPs	Chance of False Match: **1 in 5.53 Quintillion**

How It Works

A one-time buccal/oral swab is collected from the test subject along with an initial urine sample. The single swab is used to create their reference SNP (genetic) profile to which all follow-up specimen submissions are compared.



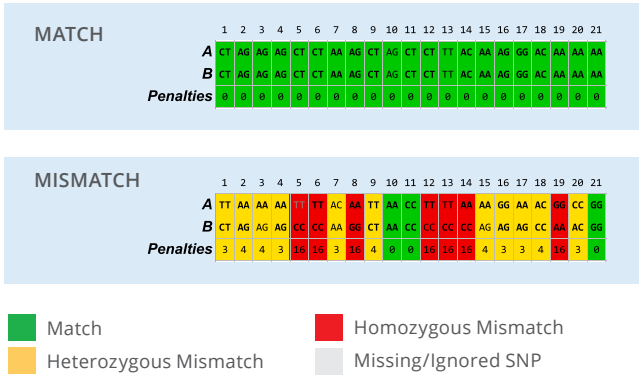
Simplified PCR-based workflow generates accurate results within a day.

DNA Extraction | PCR/SAP/ Extension | Target Sequence Detection | Automated Data Analysis

Sample ID+ Reporting Software

The iPLEX Pro Sample Integrity panel is accompanied by reporting software that automatically compares SNP profiles generated from submitted specimens to the original reference profile, enabling simplified matching without the need for complex data analysis. **There are three possible results:**

- **MATCH** – Submitted specimen matches the reference profile. Specimen is valid.
- **MISMATCH** – Specimen is not from the person who submitted it. Possible causes for this include intentional urine substitution or incorrect sample labeling.
- **FAILED SPECIMEN** – Invalid specimen. May indicate use of synthetic/animal urine or addition of adulterants.



SPECIFICATIONS

iPLEX Pro Sample ID Panel

Sample Identification	44 SNPs
Sample Type	Urine, Buccal Swab
Sample Input	≥1mL urine, 1 buccal/oral swab
Automate Reporting	Included

iPLEX Pro Sample ID Panel - SNPs & Genes					
rs1005533	rs1357617	rs1493232	rs214054	rs717302	rs901398
rs1024116	rs1360288	rs1982986	rs2247221	rs727811	rs914165
rs1028528	rs136337	rs1994997	rs2518968	rs729172	rs9583190
rs10495407	rs1382387	rs2010253	rs251934	rs740910	rs964681
rs10771010	rs1413212	rs2040411	rs2714854	rs8037429	
rs11781516	rs1454361	rs2046361	rs2831700	rs826472	
rs13050660	rs1463729	rs2056277	rs354439	rs876724	
rs1335873	rs1468118	rs2076848	rs3819854	rs891700	

ORDERING INFORMATION

Catalog No.	Item	Chip format	# of Samples
13116F	iPLEX Pro Sample ID Panel Set – CPM (2x96)	96 CPM	192
25093F	iPLEX Pro Sample ID Panel Set – CPM (10x96)	96 CPM	960
25094D	iPLEX Pro Sample ID Panel Set – CPM (2x384)	384 CPM	768
25095D	iPLEX Pro Sample ID Panel Set – CPM (10x384)	384 CPM	3840

The panel sets contain assay specific primers and all the required reagents to process DNA samples on the MassARRAY® system.

References

1. Sanchez, J.J., et al. (2006), A multiplex assay with 52 single nucleotide polymorphisms for human identification. ELECTROPHORESIS, 27: 1713-1724. https://doi.org/10.1002/elps.200500671

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