

MagSi-DNA Animal

Application Note | Data from various animal samples

MagSi-DNA Animal allows for fast and cost-effective extraction of DNA from various animal samples like blood, semen, hairs, saliva/swabs or lysed tissue. Exemplary application data of DNA yield, capillary electrophoresis based STR analysis, Illumina Infinium bead arrays and targeted sequencing data from various animal samples are presented below.

Application data

1. DNA concentrations

Sample	DNA concentration ¹ , ng/μL (Qubit)				
	Dog	Cat	Horse	Cattle	Swine
Blood, 20 μL	5.5	3.5	2.6	9.3	5
Semen, 30 μL	74	nt	170	26	11
Swab/Saliva ² , 100 μL	2.2	5.6	nt	nt	nt
Hair, 8 pcs	nt	nt	11.8	5.7	13.7
Tissue, 4 mm	nt	nt	nt	17.8	3.1

Table 1: Results of typical DNA concentrations obtained from various sample materials. DNA purification was performed using a MagMAX™ Express-96 magnetic bead processor.

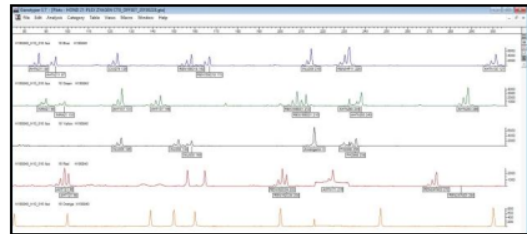
nt: not tested; ¹100 μL elution volume; ² from DNA Genotek PG 100 tubes



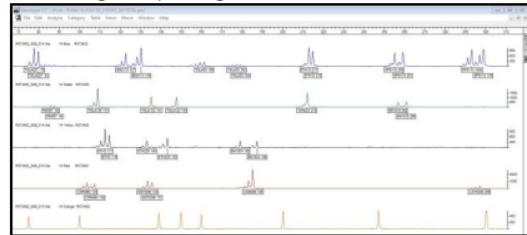
All marker systems were amplified demonstrating good DNA quality.

Obtained purified DNA was subjected to several downstream assays:

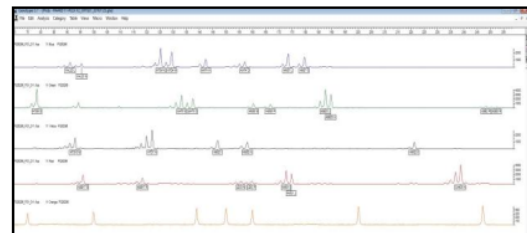
2. Parental testing by capillary electrophoresis



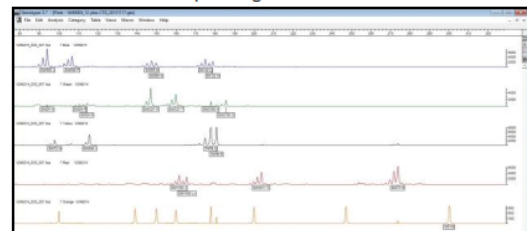
Dog-swab parentage verification



Cattle-Hair parentage verification



Horse-blood parentage verification



Pig-tissue parentage verification

Figure 1. Exemplary results from STR analysis (dog blood, Genotyper profile)



3. Genotyping using Illumina Infinium bead array

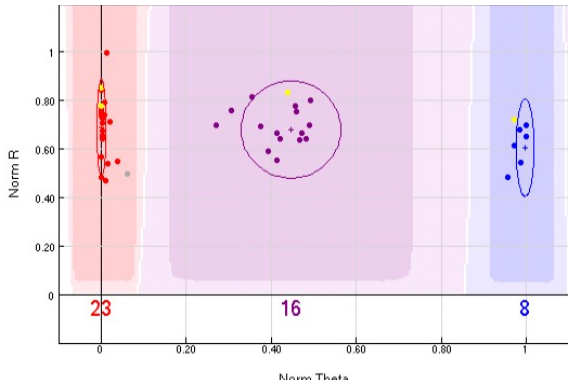


Figure 2: Exemplary results from 4 randomly selected DNA eluates obtained from bovine hair samples (highlighted in yellow).

Call rates (>0.989) and fluorescent intensities are comparable to a competitor's extraction method (not highlighted dots in Figure 2).



4. Targeted genotyping by sequencing

Sample	Mapped Reads	On Target	Mean Depth	Uniformity
MagSi-DNA Animal	406.127	99,04 %	2.209,85	86,81 %
Competitor	298.798	95,05 %	1.456,87	83,40 %

Table 2: Targeted genotyping by sequencing (GBS) data. Randomly selected purified DNA samples obtained from dog hair, dog blood and dog semen were used for GBS using Thermo's AgriSeq™ reagents.

All parameters obtained from the MagSi-DNA Animal kit purified DNA samples are on average higher in comparison to the parameters obtained from a competitor's DNA purification kit.

Conclusion

The DNA obtained from a variety of sample materials using the **MagSi-DNA Animal** kit is of good quality and suitable for different downstream assays commonly used in veterinary testing.

Ordering information

Art. No.	Description	Amount
MDKT00150096	MagSi-DNA Animal	96 preps
MDKT00150960	MagSi-DNA Animal	10 x 96 preps

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