SmartExtraction LHS-Kit

All in one pipette tip
– automatic extraction of HMW DNA

BRAND. For lab. For life.®

+ Binding – washing – elution – all in one pipette tip
+ High yield, high purity
+ One kit for various starting materials

LIQUID HANDLING STATION

At a glance: The advantages of SmartExtraction LHS-Kits

Quality and quantity are of particular importance when extracting genomic DNA. SmartExtraction technology makes it possible to extract high-molecular DNA in pipette tips automatically. Special particle surfaces facilitate the specific, rapid binding and subsequent elution of DNA. Another special feature: One kit for various starting samples: bacteria, yeasts, whole blood, eukaryotic cells, tissue samples, rodent tails. The use of chemistry for lysis, HMW DNA binding and extraction is based on the technology of IST Innuscreen GmbH.

- + No phenol/chloroform
- + No ion exchangers
- + No spin filter columns
- + No magnetic beads
- + One kit for various starting materials
- + The result: HMW DNA (200 kb - 500 kb)

Binding – washing – eluting

All in one pipette tip

Application in the Liquid Handling Station

After lysis of the initial samples outside the Liquid Handling Station, the DNA can be isolated quickly and easily without centrifugation steps and without shaking (vortex). This is achieved by various automated pipetting steps in the Liquid Handling Station pipetting robot. Binding and washing steps are performed in the pipette tip, as is the final elution. The required reagents are placed in a deep-well plate. Finally, the eluted, high-purity DNA is then available in the deep-well plate. The pipetting speeds and number of cycles have been selected to ensure high yields and to minimize shear forces.

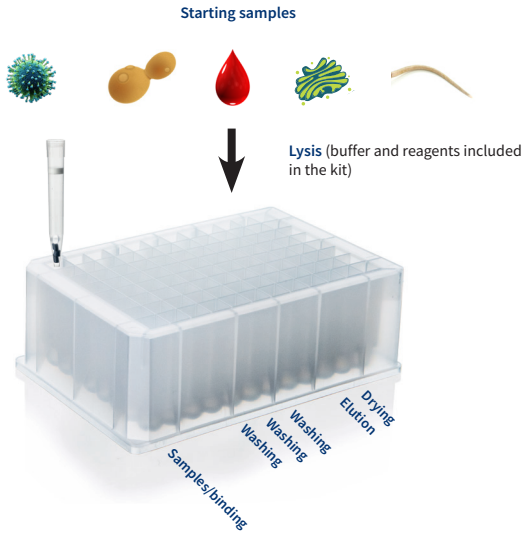


Fig. Smart Extraction process in the LHS

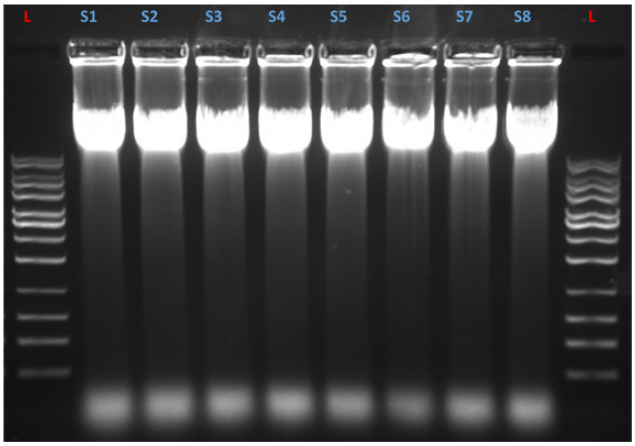
Technology	SmartExtraction
Process	Automated in BRAND Liquid Handling Station
Material	Bacteria, yeasts, whole blood, Eukaryotic cells, tissue samples, rodent tails
Elution volume	200 µl - 400 µl
Time in LHS	22 min for 8 samples (without lysis)
Binding capacity	Theoretically unlimited

Results of DNA extraction from mouse tail samples

The high binding capacity of the SmartExtraction surfaces in the pipette tip makes it possible to isolate a larger amount of DNA in many cases compared to magnetic bead applications. Clumping of DNA is also avoided.

Sample	Concentration (ng/µl)	Yield (µg)	$A_{260/280}$	$A_{260/230}$
Sample_1	346,95	69,39	1,833	2,021
Sample_2	315,45	63,09	1,881	2,033
Sample_3	312,35	62,47	1,882	2,021
Sample_4	346,55	69,31	1,878	2,039
Sample_5	350,05	70,01	1,875	2,043
Sample_6	347,95	69,59	1,883	2,050
Sample_7	352,20	70,44	1,884	2,039
Sample_8	361,30	72,26	1,879	2,027

Spectrophotometric measurements of mouse tail DNA.
Data showed all eight cell DNA samples have a high concentration and yield along with good absorbance ratios. No contaminants were detected in the measurements.



Gel electrophoresis photo of the eight mouse tail samples. Bright bands of high molecular weight indicated a successful DNA extraction from the eight mouse tails while fuzzy bands of low molecular weight indicate the presence of mRNA in the samples.
L, Ladder; S1 to S8, mouse tail samples one to eight.

Ordering Information

SmartExtraction LHS-Kit

For the automated isolation of high molecular weight DNA (HMW)

Description	for 8 samples	for 16 samples	for 32 samples
Ery Lysis Solution A (conc.)	11 ml	2 x 11 ml	2 x 25 ml
Ery Lysis Solution B (conc.)	6 ml	10 ml	25 ml
Lysis Solution CBV	5 ml	10 ml	15 ml
Proteinase K	for 1 x 1,5 ml working solution	for 1 x 1,5 ml working solution	for 2 x 1,5 ml working solution
RNase A	60 µl	2 x 60 µl	300 µl
Binding Optimizer	1 ml	1 ml	2 x 1 ml
Washing Solution LS (conc.)	4 ml	6 ml	12 ml
Elution Buffer	2 ml	10 ml	15 ml
Deep Well Plate (2.0 ml)	1	2	4
SmartExtraction Tips	8	2 x 8	4 x 8
Manual	1	1	1
Cat. No.	709427	709428	709429

Fig. Smart Extraction Kit for 16 samples (709428)

Not included:

+ PBS, 1x
+ 96%–99.8% ethanol (molecular biology grade, undenaturated)B
+ 80% ethanol
+ Isopropanol
+ ddH2O; ultrapure for dissolving Proteinase K, Ery A and B

BRAND GMBH + CO KG
P.O. Box 1155 | 97861 Wertheim | Germany
T +49 9342 808 0 | F +49 9342 808 98000 | info@brand.de | www.brand.de

BRAND. For lab. For life.®

Our technical literature is intended to inform and advise our customers. However, the validity of general empirical values, and of results obtained under test conditions, for specific applications depends on many factors beyond our control. Please appreciate, therefore, that no claims can be derived from our advice. The user is responsible for checking the appropriateness of the product for any particular application.
California Residents: For more information concerning California Proposition 65, please refer to www.brand.de/calprop65.

Subject to technical modification without notice. Errors excepted.

Find accessories and replacement parts, user manuals, test instructions (SOP) and product videos at **shop.brand.de**

Further information on products and applications can be found on our YouTube channel: **mylabBRAND**

BRAND (Shanghai) Trading Co., Ltd.
Shanghai, China

T +86 400 658 3016
info@brand.com.cn
china.brand.com.cn

BRAND Scientific Equipment Pvt. Ltd.
Mumbai, India

Tel.: +91 22 42957790
customersupport@brand.co.in
www.brand.co.in

BRANDTECH® Scientific, Inc.
Essex, CT. United States of America

Tel.: +1 860 767 2562
info@brandtech.com
www.brandtech.com

BRANDGROUP®