

Whatman CloneSaver™ Card

The fastest way to isolate cloned DNA for transformation and amplification.

Collecting, storing and purifying BAC and plasmid DNA from bacterial clones has never been simpler with Whatman CloneSaver™ Cards. Employing patented Whatman FTA® technology, CloneSaver Cards make processing of nucleic acids fast and easy. Apply bacterial cultures, colonies, glycerol stock or purified vector DNA to a CloneSaver Card and DNA is instantly captured and stabilized. Although DNA samples can be stored safely for years* at room temperature, bacterial clones are ready for PCR and other procedures within minutes. For any method of downstream analysis, CloneSaver Cards provide a new level of convenience that will help speed your research.

Features and Benefits

- **Capture and stabilize BAC and plasmid DNA in one easy step** No reagents, centrifuges or other materials needed.
- **A secure, reliable alternative to glycerol stocks** Proven method to process and stabilize BAC and plasmid DNA.
- **Sequence plasmid DNA after rolling circle amplification** Bypass culture regrowth and plasmid repurification.
- **Simplify storage, transport and access to clone libraries** Frequently used clones can be accessed conveniently, easily and inexpensively.
- **Identify and retrieve stored clones faster** Cards include a Sample ID Chart, Instruction for Use and area for bar code labeling.
- **Vector DNA is ready for use in less than 30 minutes** Bacterial clones can be directly screened by PCR before overnight culture or can be used immediately.
- **Rescue contaminated clone stocks** Cards inactivate phage and bacteria, and can "rescue" clones from phage infection.

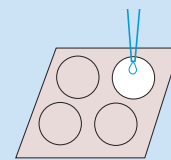
Applications

- PCR analysis
- Bacterial transformation
- Amplification and sequencing
- High throughput applications

For research use only. Not for use in diagnostic research.

*Ongoing studies indicate that plasmid DNA on CloneSaver Cards is stable for more than 4 years with no sign of degradation. While performance beyond this cannot be extrapolated from real-time data, CloneSaver Cards utilize the same FTA technology that has been shown to stabilize genomic DNA at room temperature for more than 14 years (studies ongoing).

Isolate Plasmid and BAC DNA in One Easy Step

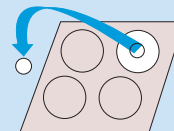


SPOT: Apply sample to the center of a printed circle and allow to dry. The pink color of the Card will turn white. Plasmid or BAC DNA is captured, stabilized and protected by patented FTA technology.

USE IMMEDIATELY: DNA is ready for PCR in less than 10 minutes.

STORE AT ROOM TEMPERATURE: Place CloneSaver Card in Resealable Multi-barrier Pouch.

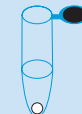
PREPARE DNA FOR DOWNSTREAM APPLICATIONS



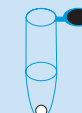
PUNCH: Remove a disk from the white area of the dried spot (1 minute).



PLACE: Put disk in tube for transformation or PCR*. DNA remains bound to CloneSaver (1 minute).



TE⁻¹ WASH: Wash 2 times with TE⁻¹ (10 mM Tris-HCL, 0.1 mM EDTA, pH 8.0). Cellular debris and other contaminants are removed and the punch is ready for downstream applications (5 minutes).



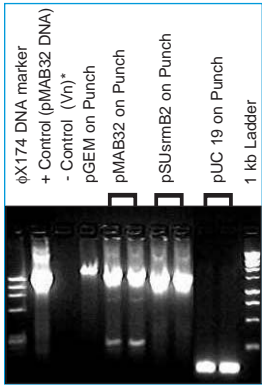
TRANSFORMATION or PCR: Add cells or reagents directly to the tube and perform reaction. The washed punch can be used directly for transformation or PCR* (2 minutes).

*Transformation and PCR can also be performed using DNA eluted from the punch with a simple elution protocol.

Whatman®

PCR

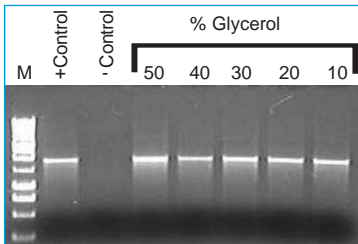
PCR of Different Plasmids on CloneSaver



For PCR, the template DNA (a washed punch or 2 μ L eluted DNA) was added to the PCR tube containing master mix for a final volume of 25–50 μ L. PCR Conditions: Initial denaturation of 95°C for 1 minute, followed by 35 cycles of 95°C for 30 seconds, 50°C for 30 seconds, and 72°C for 1 minute, 30 seconds with a final extension of 72°C for 10 minutes.

*Vn = Virgin (unspotted) punch

PCR using Punches from Glycerol Stocks on CloneSaver Cards



PCR is unaffected by up to 50% glycerol in stocks applied to CloneSaver Cards. Transformations can also be achieved from these samples. Because glycerol is hydroscopic the cards should be stored with a desiccant.

TRANSFORMATION

Competent cells were transformed using either the entire washed punch (electroporation and heat shock methods) or 2 μ L of eluted DNA in the reaction (electroporation only). Standard transformation protocols were followed.

TRANSFORMATION OF BACTERIA WITH PLASMID DNA STORED ON CLONESAVER PUNCHES

Vector	cfu/Transformation				
	Size (Kb)	Copy #	Electroporation of DNA Eluted from Punch ^a	Electroporation Directly from Punch ^a	Heat-Shock Directly from Punch ^b
pUC19	2.7	500–700	$3.4 \pm 2.3 \times 10^4$	$3.3 \pm 0.8 \times 10^5$	$1.0 \pm 0.3 \times 10^3$
pSUsrmB2	5.8	6–10	$1.4 \pm 0.9 \times 10^4$	$7.5 \pm 3.4 \times 10^4$	$8.6 \pm 2.4 \times 10^3$

^a The competent cells used in the transformation are ElectroMax™ DH5 α

^b The competent cells used in the transformation are MaxEfficiency™ DH5 α

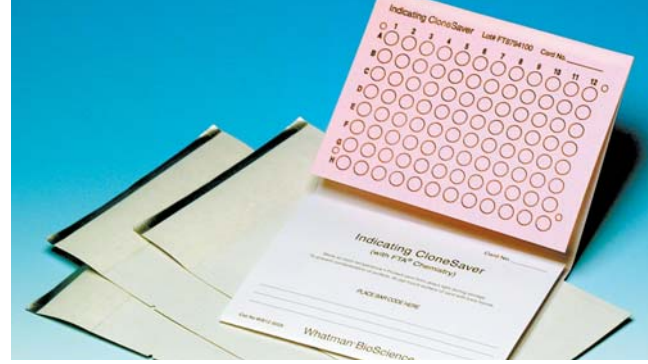
TRANSFORMATION OF BACTERIA WITH BAC DNA STORED ON CLONESAVER PUNCHES

Clone	Size	cfu/Transformation
		(Electroporation) ^c
Human clone in pBeloBAC	~130 kb	$1.5 \pm 0.8 \times 10^3$

^c The competent cells used in the transformation are ElectroMax DH10B

WHATMAN CATALOG ORDERING INFORMATION

Whatman Catalog Number	Description	Qty/Pack
WB120028	CloneSaver Cards in 96 Well Format	5
WB120052	CloneSaver Starter Kit	1
WB100024	Resealable Multi-barrier Pouch	50
WB100003	Storage Desiccant Packet	1000
WB100007	Harris Micro Punch 2.0 mm with Cutting Mat	1
WB100034	SPOT Holder for Semi-Automated Spotting	1



Whatman Quality

Whatman is a global leader in separations technology and is known in the scientific community for providing innovative Life Science products and solutions. Our instinct for simplification accelerates the rate of discovery, reduces costs and saves time. In order to focus on the unique needs of customers, Whatman is organized into four business development units: LabSciences, BioScience, MedTech-Diagnostics and MedTech-Devices. For more information, visit www.whatman.com.

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