NIPPON GENE

Ethachinmate

Carrier for Ethanol Precipitation of Nucleic Acids

Ethachinmate is a specially prepared neutral polyacrylamide polymer solution and a useful reagent for recovering an extremely small quantity of nucleic acids using ethanol.

Code No.	Product Name	Package Size
318-01793	Ethachinmate	0.02 mL
312-01791		0.2 mL

Contents: Ethachinmate 0.2 mL (0.02 mL)
3M Sodium Acetate 1.0 mL (0.1 mL)

Storage Condition: 2～10℃

Feature

Small Amounts of DNA/RNA Recovery

More than 20 ng/ml of DNA(>100bps) or RNA(>120bps) can be recovered.

No Incubation Process

Incubation at -20℃ or -80℃ is not necessary. It is possible to run centrifugation immediately after the addition of Etachinmate and Ethanol, as shown in the protocol.

No Influence to Enzyme Reactions

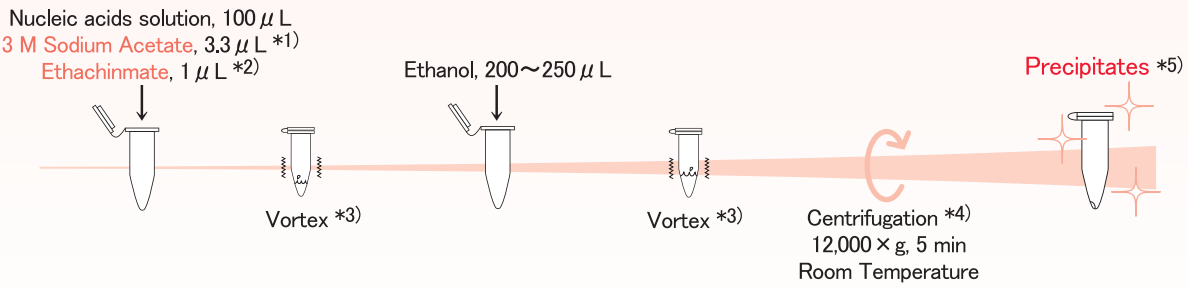
Ethachinmate precipitates can be dissolved easily in a buffer and be used in subsequent processes. Ethachinmate does not affect activities of DNA polymerase, reverse transcriptase, restriction enzyme, ligase and transformation of *E.coli.*

Visible

When ethanol is added, Ethachinmate forms a visible pellet.
The visibility avoids the loss of extremely small amounts of nucleic acids.

DNase and RNase Free

Protocol

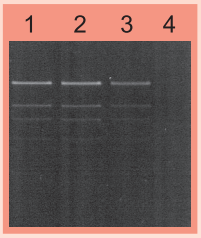


*1) Final salt concentration should be more than 0.1 mol/L.
*2) Addition of 1 micro L of Ethachinmate per 100 micro L of DNA or RNA solution is recommended. 3 micro L of Ethachinmate is enough even if the solution amount exceeds 300 micro L. If the above process is repeated, more addition of Ethachinmate is not necessary. (If more Ethachinmate is added repeatedly, it might increase the viscosity of the DNA solution and affect the following process.)
*3) Vortex mixing is necessary to recover an extremely small amount of DNA or RNA.
*4) Cooling is not necessary in the centrifugation process.
*5) After centrifugation, white pellets are visible on the bottom of the tube. The precipitate can be dissolved easily in a buffer and be used in various enzymatic reactions. The pellet can be washed 70 % ethanol if necessary.

Experimental Data

Recovery of DNA at Lower Temperature

Small concentration of DNA digested with *Hind*Ⅲ (10 ng/ 500 micro L) was precipitated with 1 mL of ethanol with 0.1 M sodium acetate. A dissolved precipitate was analyzed with 1 % agarose gel electrophoresis.



Lane 1 : λ/*Hind*Ⅲ (Control)
Lane 2 : λ/*Hind*Ⅲ + Ethachinmate 3 μL (no incubation)
Lane 3 : λ/*Hind*Ⅲ, -20℃, overnight.
Lane 4 : λ/*Hind*Ⅲ, -80℃, 20 minutes.

The results indicate that nearly 100 % of a small quantity of DNA was recovered by the ethanol precipitation with Ethachinmate without low temperature incubation.

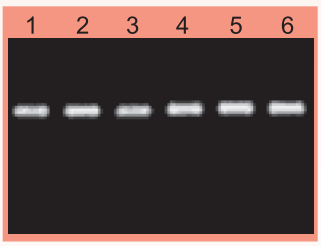
Recovery of Poly(A)+ RNA from Total RNA

Poly(A)+ RNA were purified from 150 micro g of total RNA extracted by ISOGEN from various mouse tissues. The Poly(A)+ RNA was concentrated by ethanol precipitation with Ethachinmate and the concentrated Poly(A)+ RNA was quantified by spectrophotometer at 260 nm.

Sample	Total RNA	Prepared Poly(A)$^+$ RNA	
		＋Ethachinmate	－Ethachinmate
Mouse Brain	150 μg	6.6 μg	5.3 μg
Mouse Kidney	150 μg	6.1 μg	4.7 μg
Mouse Liver	150 μg	5.9 μg	4.7 μg
Mouse Testis	150 μg	5.4 μg	5.2 μg
Mouse Thymus	150 μg	5.4 μg	4.4 μg

Taq DNA Polymerase

In the precipitation with Ethachinmate, 600 bps of DNA fragments were amplified by *Taq* DNA Polymerase under the following conditions: 25 mM TAPS-HCL (pH 9.3), 50 mM KCl, 2 mM $MgCl_2$, 0.2 M primers, 1 mM 2-mercaptoethanol, 0.01 % gelatin, 200 μM dNTPs, and 1.25 uints of *Taq* DNA polymerase in 25 μl of reaction mixture.
The PCR was condusted 25 cycles at 94℃ for 1 min., 55℃ for 2 min and 72℃ for 1 min.



Lane 1 : Ethachinmate 0 μL
Lane 2 : Ethachinmate 0.2 μL
Lane 3 : Ethachinmate 0.5 μL
Lane 4 : Ethachinmate 1 μL
Lane 5 : Ethachinmate 3 μL
Lane 6 : Ethachinmate 5 μL

The results indicate that Ethachinmate did not inhibit any amplification reactions of *Taq* DNA polymerase.

Please contact Wako or your local distributor.

[Distribution]
FUJIFILM Wako Pure Chemical Corporation
http://ffwk.fujifilm.co.jp/en/index.html
1-2, Doshomachi 3-Chome, Chuo-ku, Osaka 540-8605, Japan
Tel: +81 6 6203 3741 Fax: +81 6 6203 1999
ffwk-cservice@fujifilm.com Online Catalog: www.e-reagent.com

[Manufacturer]
NIPPON GENE CO., LTD.
2-7-18, Toiya-machi, Toyama 930-0834 Japan
URL: http://www.nippongene.com

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