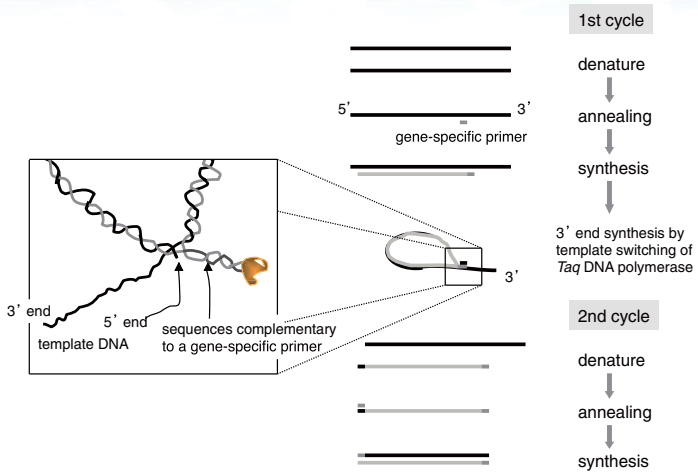
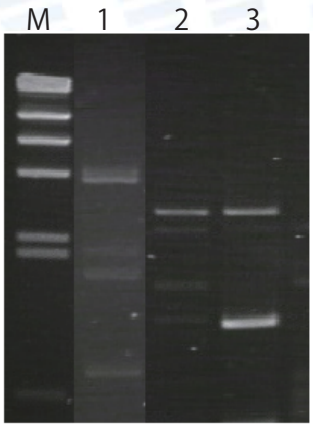
Next-generation RACE by

accura-expRACE KIT

1st-strand cDNA synthesis ⇨ 2nd-strand cDNA synthesis ⇨ RACE PCR

From cDNA Synthesis to RACE in only a Day.





Results of RACE experiment

5′ RACE of the mTfrc gene by using mouse testis ds cDNA synthesized with this kit.

M: λ *Hind* III digestion marker
Lane 1: full-length cDNA ~4.4 kb
Lanes2, 3: ~3 kb cDNA

- In RACE (Rapid Amplification of cDNA Ends) by the single-primer method* of this kit, the targeted cDNA is amplified by PCR with only a gene-specific primer using ds cDNA as a template.
- The mechanism is based on that the terminal region of the ds cDNA is partially denatured at 68 C for the extension reaction and that the linear DNA molecule tends to circularize.
- Upon reaching the 5′ end of the template DNA, thermostable DNA polymerase switches templates to the 5' terminal region of the newly synthesized daughter strand at a certain probability and synthesizes DNA sequences complementary to the gene-specific primer.
- Using this daughter strand as a template, the targeted cDNA is amplified with only a gene- specific primer.

*US patent #7504240
Japanese patent #4304350

- By using the accura-expRACE KIT, both 5′ and 3′ RACE can **easily** and **efficiently** be performed under **simple conditions**, such as RT-PCR.
- Long cDNA and rare cDNA unidentified previously can be isolated.
- The synthesized ds cDNA can be used as a cDNA library. You can perform ~400 screenings of a cDNA library by RACE.
- The cDNA synthesized by this kit contains a high proportion of full-length cDNA because an "advanced type M-MLV Reverse Transcriptase" is used.

Actual researcher's comments

"Although it is surprising that the method would work, it apparently does."

"The RACE PCR method described has a number of advantages over current protocols."

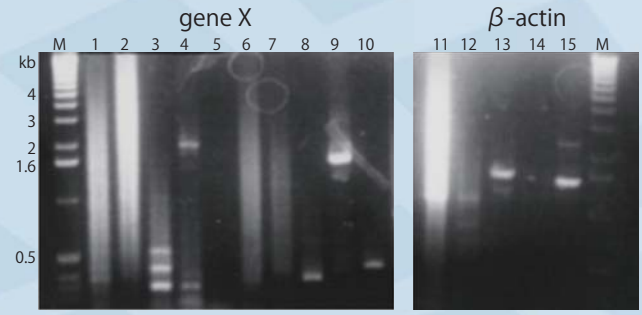
Reference: *Mol. Biotechnol.* **27**(2004)179-186
Gene **342**(2004)165-177

COSMO BIO CO., LTD.

accura-expRACE KIT

Performance comparison with another brand kit

5′ RACE of the mouse gene "X" and β-actin



Lane 1, 2, 3, 6, 7, 8, 11, 12: RACE KIT produced by B company
Lane 4, 5, 9, 10, 13, 14, 15: accura-expRACE KIT
Lane M: DNA size marker

Lane 1-10: gene X 5′ RACE primer
Lane 11-15: β-actin 5′ RACE primer

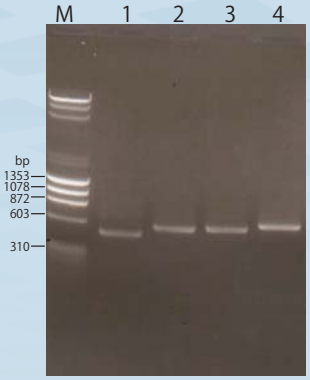
Lane 4: full-length gene X cDNA
Lane 13: full-length β-actin cDNA

94℃ 30 sec
60℃ 1 min
68℃ 4 min
35 cycles x2 (gene X)
35 cycles (β-actin)

cDNA synthesis using mouse testis poly (A)⁺ RNA.
Both PCR reactions performed at identical conditions.

Peformance confirmation result (1) by a third party entity

5′ RACE PCR of the Immunoglobulin V domain gene

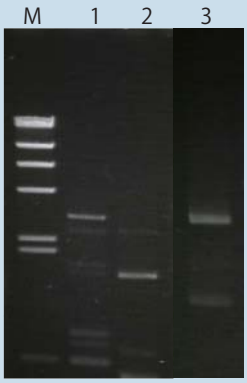


Poly (A)⁺ RNA was extracted from hybridoma

Expected 5′ RACE products
Lane 1: ~500 bp (primer W)
Lane 2: ~550 bp (primer X)
Lane 3: ~550 bp (primer Y)
Lane 4: ~600 bp (primer Z)

Peformance confirmation result (2) by a third party entity

5′ and 3′ RACE PCR of the mTfrc gene



Mouse Brain poly (A)⁺ RNA was used

Full length of 5′ RACE PCR is ~4.4 kb
Full length of 3′ RACE PCR is ~2.8 kb

Lane 1, 2 : 5′ RACE PCR
Lane 3: 3′ RACE PCR
Lane M: λ *Hind* III Marker

Description	Cat. No.	Quantity	Storage
accura-expRACE KIT	ELP-EPI001-EX	5 reactions	-20℃

For research use only. Not for diagnostic use.

Manufacturer: EI Plain Institute Inc.

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