Vazyme

Stratech

High Fidelity PCR & Fast Cloning

2x Phanta Max Master Mix (Vazyme, #P515)
Phanta Max Super Fidelity DNA Polymerase (Vazyme, #P505)

ClonExpress Ultra One Step Cloning Kit (Vazyme, #C115)

5min TA/Blunt-Zero Cloning Kit (Vazyme, #C601)

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Phanta Max Super Fidelity DNA Polymerase (#P505 / #P515)

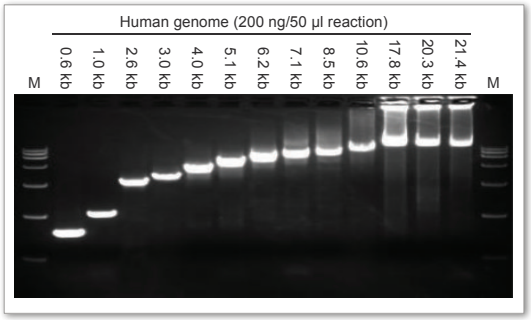
Phanta Max Super -Fidelity DNA Polymerase	100 U / 500 U / 1000 U	#P505
2 x Phanta Max Master Mix	1 ml / 5 ml / 15 ml	#P515

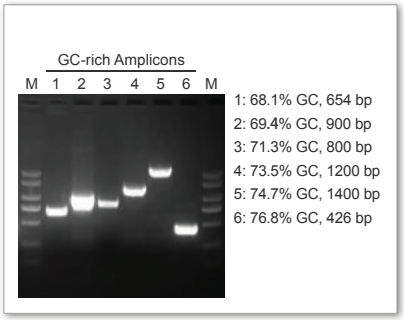
Fits all your PCR needs.

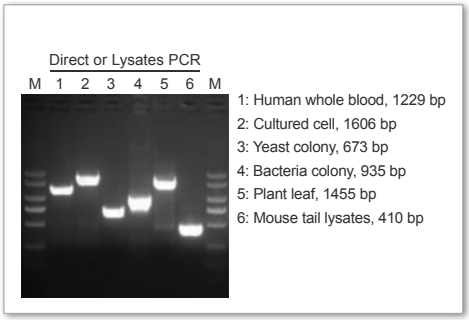
Phanta Max Super-Fidelity DNA Polymerase (Vazyme, #P505) is optimized from Phanta DNA Polymerase for robust hot-start PCR with super fidelity. The unique extension factor, specificity-promoting factors and plateau-inhibiting factors greatly improve its long-fragment amplification ability, specificity, and PCR yield. 2× Phanta Max Master Mix (Vazyme, #P515) is the ready-to-use format, which contains Phanta Max, dNTP, and an optimized buffer system. Protective reagents in the buffer enable the resistance to repeated freeze-thaw cycles.

- **Super Fidelity** — Amplification error rate is 53-fold lower than that of *Taq* and 6-fold lower than that of *Pfu*.
- **Long Amplicons** — Able to amplify long fragments (e.g. 40 kb λ DNA, 40 kb plasmid, 20 kb genomic DNA, and 10 kb cDNA).
- **High-GC PCR** — Can be used on routine and GC-rich templates.
- **Good Resistance to PCR Inhibitors** — Suitable for direct-PCR using crude materials as templates (i.e. bacteria, fungi, whole blood, cultured cells, plant or animal tissue lysate, food lysates).

Superior PCR Performance







Phanta Max exhibits excellent performances in amplifying long fragments and high-GC fragments. It can also be used for effective direct-PCR using crude materials as templates, due to its excellent resistance to PCR inhibitors.

Selected Product Citations of Phanta Max

Nature, 2015, 518(7537):115-9.

Cell, 2018, 172(5):1091-107.

Molecular Cell, 2017, 65(6):1029-43.

Nature Chemical Biology, 2015, 11(4):259-65.

JACS, 2016, 138(20):6427-35.

Nature Communications, 2018, 9(1):4879.

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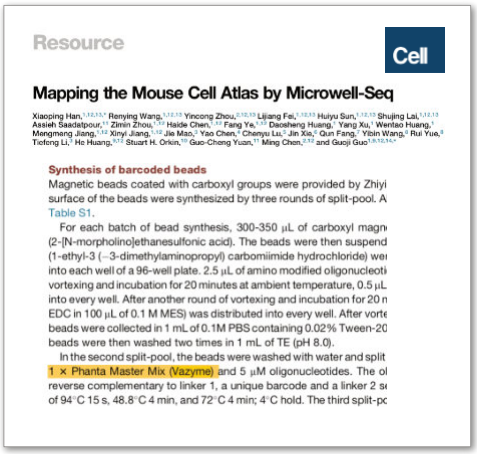
Angewandte Chemie, 2015, 54(31):9021-4.

Genes & Development, 2016, 30(15):1718-30.


Resource

Cell

Mapping the Mouse Cell Atlas by Microwell-Seq

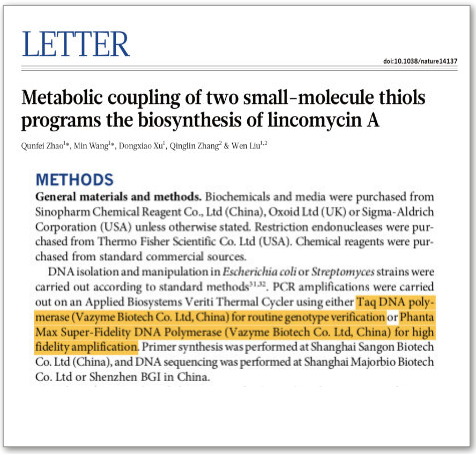
Xiaoping Han, Renying Wang, Yincong Zhou, Liljang Fei, Huiyu Sun, Shujing Lai, Assieh Saadatpour, Zimin Zhou, Haide Chen, Fang Ye, Daosheng Huang, Yang Xu, Wentao Huang, Mengmeng Jiang, Xinyi Jiang, Jie Mao, Yao Chen, Chenyu Lu, Jin Xie, Qun Fang, Yibin Wang, Rui Yue, Tiefeng Li, He Huang, Stuart H. Orkin, Guo-Cheng Yuan, Ming Chen, and Guoji Guo

Synthesis of barcoded beads

Magnetic beads coated with carboxyl groups were provided by Zhiyi surface of the beads were synthesized by three rounds of split-pool. A Table S1.

For each batch of bead synthesis, 300-350 μL of carboxyl magn (2-[N-morpholino]ethanesulfonic acid). The beads were then suspend (1-ethyl-3 (−3-dimethylaminopropyl) carbomiimide hydrochloride) we into each well of a 96-well plate. 2.5 μL of amino modified oligonucleoti vortexing and incubation for 20 minutes at ambient temperature, 0.5 μL into every well. After another round of vortexing and incubation for 20 m EDC in 100 μL of 0.1 M MES) was distributed into every well. After vorte beads were collected in 1 mL of 0.1M PBS containing 0.02% Tween-20 beads were then washed two times in 1 mL of TE (pH 8.0).

In the second split-pool, the beads were washed with water and split 1 × Phanta Master Mix (Vazyme) and 5 μM oligonucleotides. The ol reverse complementary to linker 1, a unique barcode and a linker 2 s of 94 °C 15 s, 48.8 °C 4 min, and 72 °C 4 min; 4 °C hold. The third split-pc


LETTER

doi:10.1038/nature14117

Metabolic coupling of two small-molecule thiols programs the biosynthesis of lincomycin A

Qunfei Zhao, Min Wang, Dongxiao Xu, Qinglin Zhang & Wen Liu

METHODS

General materials and methods. Biochemicals and media were purchased from Sinopharm Chemical Reagent Co., Ltd (China), Oxoid Ltd (UK) or Sigma-Aldrich Corporation (USA) unless otherwise stated. Restriction endonucleases were purchased from Thermo Fisher Scientific Co. Ltd (USA). Chemical reagents were purchased from standard commercial sources.

DNA isolation and manipulation in *Escherichia coli* or *Streptomyces* strains were carried out according to standard methods. PCR amplifications were carried out on an Applied Biosystems Veriti Thermal Cycler using either Taq DNA polymerase (Vazyme Biotech Co. Ltd, China) for routine genotype verification or Phanta Max Super-Fidelity DNA Polymerase (Vazyme Biotech Co. Ltd, China) for high fidelity amplification. Primer synthesis was performed at Shanghai Sangon Biotech Co. Ltd (China), and DNA sequencing was performed at Shanghai Majorbio Biotech Co. Ltd or Shenzhen BGI in China.

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Stratech

ClonExpress Ultra One Step Cloning Kit (#C115)

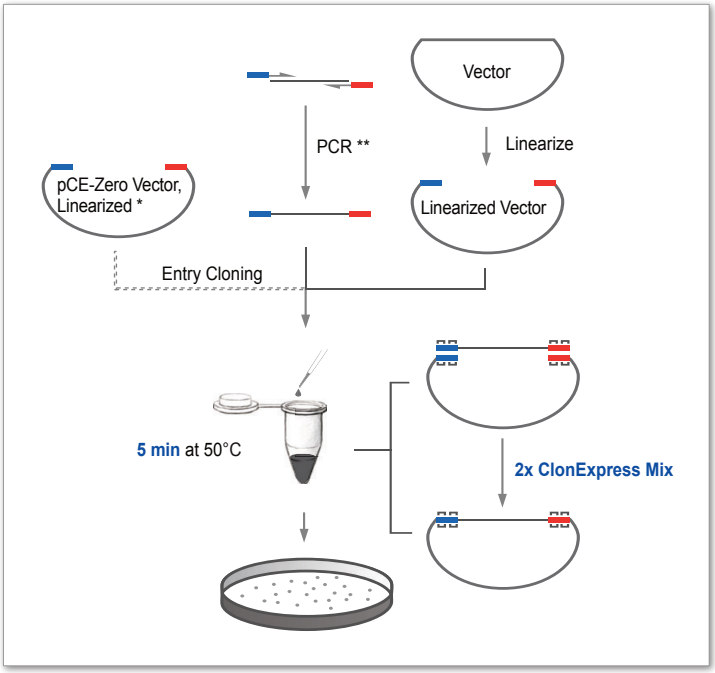
ClonExpress Ultra One Step Cloning Kit	25 rxn / 50 rxn	#C115

Seamless cloning at will!

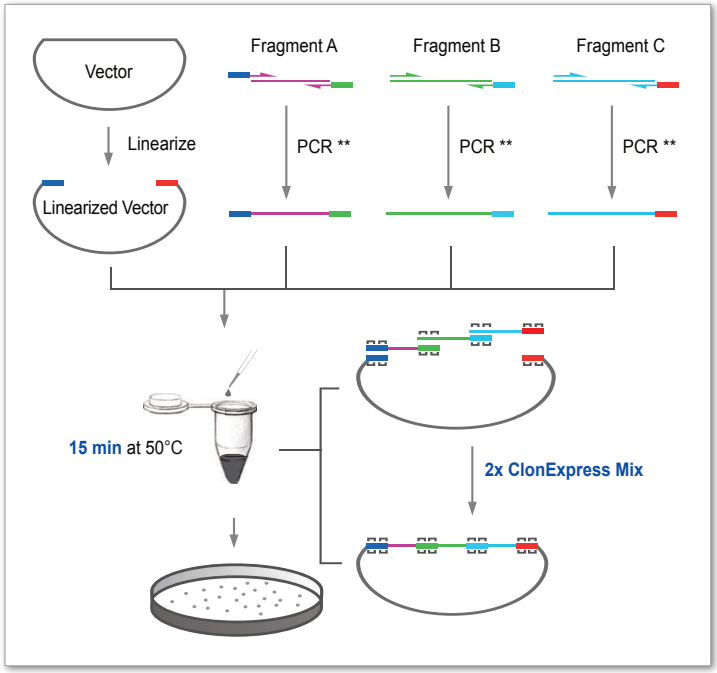
ClonExpress Ultra One Step Cloning (Vazyme, #C115) is a novel kit for fast cloning, which is designed for homologous cloning or assembly of 1 - 5 fragments. The enhanced recombinase Exnase and highly optimized buffer in 2x ClonExpress Mix ensures excellent efficiency and high tolerance to impurities.

- **Super Fast** — Cloning of 1 fragment within 5 min.
- **Simple** — Ready-to-use super mix in one tube.
- **High Efficiency** — Efficient cloning of fragments of 50 bp-10 kb with a Positive Clone Rate > 95%.
- **Versatile** — Suitable for cloning of 1 fragment, assembly of 2 - 5 fragments, and entry cloning.
- **No Background** — Independent of DNA ligase, significantly reducing self-ligated colonies.

Cloning of 1 Fragment



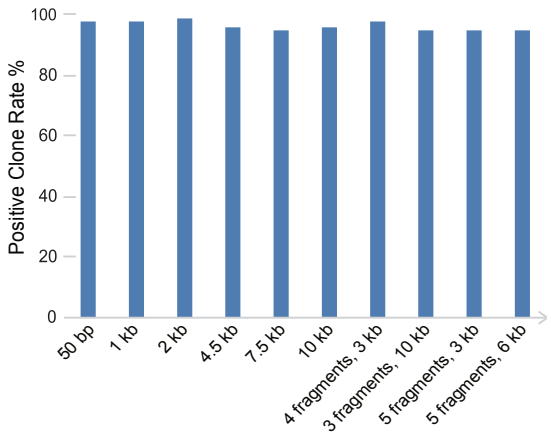
Assembly of 2 - 5 Fragments



** pCE-Zero Vector, Linearized, is supplied with ClonExpress Ultra One Step Cloning Kit (Vazyme, #C115).*

*** It is highly recommended to use Vazyme's APP - "**CE Design**" - for easy primer design.*

Excellent Cloning Efficiency



Single fragments and multiple fragments were cloned or assembled to pCE-Zero Vector using ClonExpress Ultra One Step Cloning Kit (Vazyme, #C115), respectively. After transformation to DH5α, 50 colonies were randomly picked for colony PCR to evaluate the Positive Clone Rate.

5min TA/Blunt-Zero Cloning Kit (#C601)

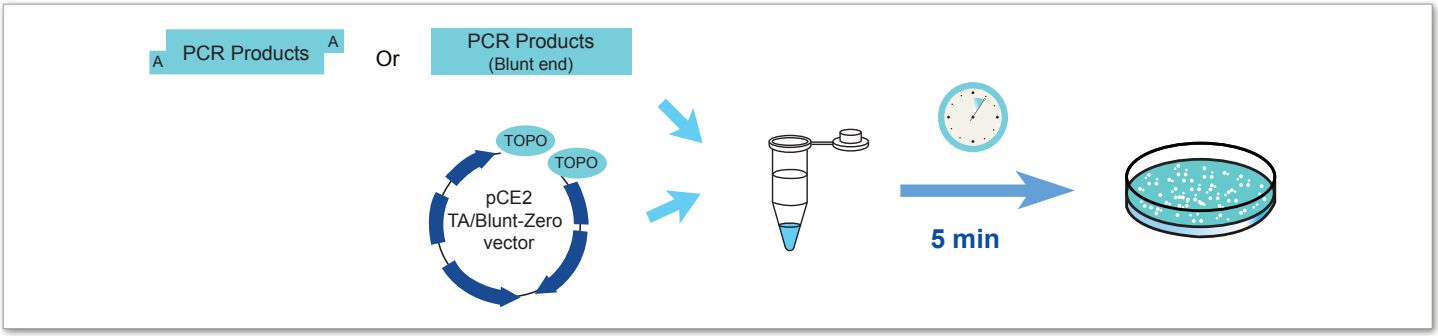
5min TA/Blunt-Zero Cloning Kit	25 rxn / 50 rxn	#C601

Easiest cloning ever!

5min TA/Blunt-Zero Cloning Kit (Vazyme, #C601) is an amazing kit for TOPO cloning.

- **Fast** Cloning within 5 min.
- **Versatile** Suitable for both TA cloning and blunt-end cloning.
- **Simple** Ready-to-use super mix in one tube.
- **Efficient** Positive Clone Rate > 95%.

Workflow Overview



Selected Product Citations of Vazyme's Fast Cloning Kits

N Engl J Med, 2015, 372(4):341-50.

Nature, 2015, 527(7576):64-9.

Nature Biotechnology, 2018, 36(4):324-7.

Nature Biotechnology, 2018, (36):950-3.

Nature Biotechnology, 2018, (36):946-9.

Nature Biotechnology, 2018, (36):1160-3.

Cell, 2014, 159(1):134-7.

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Immunity, 2015, 42(2):309-20.

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Neuron, 2016, 89(6):1248-63.

Molecular Cell, 2017, 67(2):214-27.

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Nature Chemical Biology, 2015, 11(4):259-65.

Genome biology, 2018, 19(1):197.

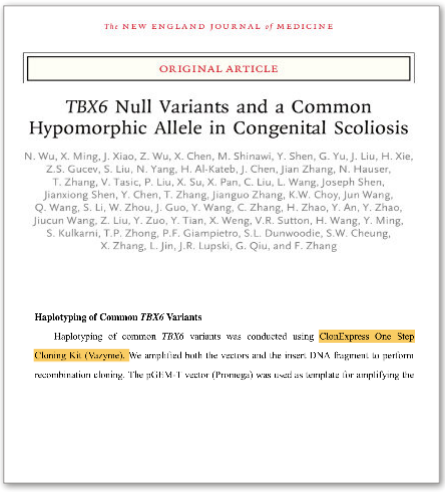
Nature Communications, 2017, 8(1):1649.

Nature Communications, 2017, 8(1):2051.

Nature Communications, 2016, 7:12433.

Autophagy, 2018, 14(9):1543-61.

The EMBO Journal, 2018, 37(19):e98770.


The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

TBX6 Null Variants and a Common Hypomorphic Allele in Congenital Scoliosis

N. Wu, X. Ming, J. Xiao, Z. Wu, X. Chen, M. Shinawi, Y. Shen, G. Yu, J. Liu, H. Xie, Z.S. Gucev, S. Liu, N. Yang, H. Al-Kateb, J. Chen, Jian Zhang, N. Hauser, T. Zhang, V. Tasic, P. Liu, X. Su, X. Pan, C. Liu, L. Wang, Joseph Shen, Jianxiong Shen, Y. Chen, T. Zhang, Jianguo Zhang, K.W. Choy, Jun Wang, Q. Wang, S. Li, W. Zhou, J. Guo, Y. Wang, C. Zhang, H. Zhao, Y. An, Y. Zhao, Jiucun Wang, Z. Liu, Y. Zuo, Y. Tian, X. Weng, V.R. Sutton, H. Wang, Y. Ming, S. Kulkarni, T.P. Zhong, P.F. Giampietro, S.L. Dunwoodie, S.W. Cheung, X. Zhang, L. Jin, J.R. Lupski, G. Qiu, and F. Zhang

Haplotyping of Common *TBX6* Variants

Haplotyping of common *TBX6* variants was conducted using ClonExpress One Step Cloning Kit (Vazyme). We amplified both the vectors and the insert DNA fragment to perform recombination cloning. The pGEM-T vector (Promega) was used as template for amplifying the

Cell

Article

***SLERT* Regulates DDX21 Rings Associated with Pol I Transcription**

Yu-Hang Xing,[1,5] Run-Wen Yao,[1,5] Yang Zhang,[1,5] Chun-Jie Guo,[1] Shan Jiang,[1] Guang Xu,[1] Rui Dong,[2] Li Yang,[2,3,4] and Ling-Ling Chen[1,3,4,6,*]

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[3]School of Life Science and Technology, ShanghaiTech University, 100 Haike Road, Shanghai 201210, China

[4]Senior author

[5]These authors contributed equally

[6]Lead Contact

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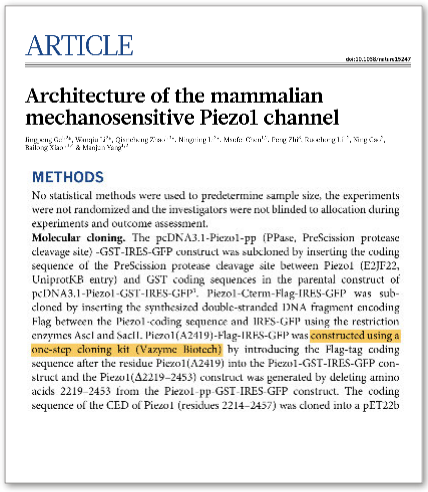
http://dx.doi.org/10.1016/j.cell.2017.04.011

METHOD DETAILS

Plasmids Construction

Full-length *SLERT* flanked by its natural intron, splicing sites and exons was PCR amplified from the genomic DNA of PA1 cells, and the PCR product was cloned into pcDNA3 using EcoRI / NotI. All deletions and mutations of snoRNA in *SLERT* in the expression vector pcDNA3-*SLERT* wt were created using Mut Express MultiS Fast Mutagenesis Kit (Vazyme C213-01). The rDNA promoter luciferase reporter vector was constructed according to previous study (Ghoshal et al., 2004). Briefly, the Kozak sequence from pGL3-Basic Vector (Promega) was removed by NcoI and XhoI digestion and the internal ribosome entry site (IRES) was amplified from pHAGE-EF1α-IRES-ZsGreen Vector and cloned into the same site with XhoI and NcoI. Then the rDNA promoter region (from −411 to +329 containing both UCE and CPE) was PCR amplified from the genomic DNA of PA1 cells and cloned into pGL3-Basic Vector using KpnI and MluI. See Table S1 for primers.


ARTICLE

Architecture of the mammalian mechanosensitive Piezo1 channel

METHODS

No statistical methods were used to predetermine sample size, the experiments were not randomized and the investigators were not blinded to allocation during experiments and outcome assessment.

Molecular cloning. The pcDNA3.1-Piezo1-pp (PPase, PreScission protease cleavage site) -GST-IRES-GFP construct was subcloned by inserting the coding sequence of the PreScission protease cleavage site between Piezo1 (E2JF22, UniprotKB entry) and GST coding sequences in the parental construct of pcDNA3.1-Piezo1-GST-IRES-GFP[3]. Piezo1-Cterm-Flag-IRES-GFP was subcloned by inserting the synthesized double-stranded DNA fragment encoding Flag between the Piezo1-coding sequence and IRES-GFP using the restriction enzymes AscI and SacII. Piezo1(Δ2419)-Flag-IRES-GFP was constructed using a one-step cloning kit (Vazyme Biotech) by introducing the Flag-tag coding sequence after the residue Piezo1(Δ2419) into the Piezo1-GST-IRES-GFP construct and the Piezo1(Δ2219–2453) construct was generated by deleting amino acids 2219–2453 from the Piezo1-pp-GST-IRES-GFP construct. The coding sequence of the CED of Piezo1 (residues 2214–2457) was cloned into a pET22b