

PCR at 40: Greatest Hits in Print

Single Reaction fuels a Scientific Revolution

For 40 years, PCR has powered breakthroughs in molecular biology, medicine and industry, with over **665,000** publications and counting.

Dive into the history and evolution of this game-changing technology. Explore landmark publications from each decade and check out the Thermo Fisher Scientific products that have fueled this innovation.



- PRODUCTS
- Invitrogen™ Platinum™ Taq DNA Polymerase
 - Invitrogen™ SuperScript™ II Reverse Transcriptase
 - Invitrogen™ SuperScript™ III Reverse Transcriptase

- High-fidelity polymerases
- DNA sequencing using PCR
- Hot-start PCR
- Invention of qPCR and RT-qPCR
- First qPCR instrument

PCR invented

- First thermal cycler
- First multiplexed PCR
- Taq polymerase
- First RT-PCR

1980s

The birth

qPCR & sequencing

1990s

Maturation

2000s

- NGS sequencing
- MIQE guidelines
- Digital PCR invented
- Isothermal amplification
- Advancement of multiplex qPCR

- PRODUCTS
- Thermo Scientific™ Phusion™ High-Fidelity DNA Polymerase
 - Thermal cyclers with Applied Biosystem™ VeriFlex™ technology

The digital age

2010s

- Mainstream digital PCR
- CRISPR-Cas9 discovered
- dPCR for low-abundance targets

PRODUCTS

- Invitrogen™ Platinum™ SuperFi II DNA Polymerase
- Applied Biosystems™ ProFlex™ PCR System
- Invitrogen™ SuperScript™ IV Reverse Transcriptase

Still innovating

2020s

- PCR becomes a household term
- cfDNA as non-invasive biomarker
- Implications of sex in disease
- Advances in prime editing

PRODUCTS

- Thermo Scientific™ Sustain Series™ PCR plastics
- Applied Biosystems™ TaqPath™ DuraPlex™ 1-Step RT-qPCR Master Mix
- Invitrogen™ Lyo-ready Bst DNA Polymerase

Explore innovative PCR solutions at thermofisher.com/pcrworkflow and let's collaborate at thermofisher.com/innovation

