



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



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Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

# Product Information

## Cheetah™ HotStart Taq DNA Polymerase

Catalog Number: 29050

### Kit Contents

| Component  | Size                                    |
|--|---|
| 29050A: Cheetah™ HotStart Taq DNA Polymerase                             | 1 x 500 units<br>(100 uL at 5 units/uL) |
| 29050B: Cheetah™ Taq Dilution Buffer, 10X<br>(without Mg <sup>2+</sup> ) | 1 x 1.5 mL                              |
| 29050C: 25 mM MgCl <sub>2</sub>  | 1 x 1.5 mL                              |

### Storage and Handling

Cheetah™ Taq is supplied in a buffer containing Tris-HCl (pH 9.0), DTT, EDTA, KCl and glycerol. The product is shipped on blue ice and should be stored immediately at -20°C upon arrival. The 10X Cheetah™ buffer and MgCl<sub>2</sub> solution should be stored at either 4°C or -20°C. Product is stable for at least 12 months from date of receipt when stored as recommended.

### Product Description

Cheetah™ HotStart Taq DNA Polymerase is a chemically modified Taq polymerase designed for reducing non-specific DNA amplification due to primer-dimer formation in PCR. Cheetah™ Taq also has better shelf life than AmpliTaq Gold® due to its unique chemical modification, which is less likely to form intramolecular cross-links. The activation time for Cheetah™ Taq is only about 2 minutes at 95°C, which is 5 to 10 times faster than that for AmpliTaq Gold® or HotStarTaq®. Cheetah™ Taq is also superior to antibody-based hot-start Taq polymerases (such as those from Invitrogen, BioRad, Promega, and Takara) because it is free of animal DNA and its activity is completely suppressed prior to activation. Furthermore, unlike AmpliTaq Gold®, activation of Cheetah™ Taq is relatively insensitive to pH, permitting use of reaction buffers between pH 6 and pH 10.

### Reaction Setup

Set up PCR reactions using the following final concentrations of reaction components:

| Reaction component  | Final concentration  |
|---------------------|----------------------|
| 10X Cheetah™ Buffer | 1X                   |
| MgCl <sub>2</sub>   | 1.5-3.5 mM           |
| Primers             | 0.1-1 uM each primer |
| dNTPs               | 0.2 mM of each dNTP  |
| Cheetah™ Taq        | 0.02-0.1 unit/uL     |

### Cycling Protocols

Choice of cycling protocol depends on your instrument capability and on the nature of your amplicon. If your instrument does not support fast cycling, use the parameters recommended in your instrument manual.

- Two-step fast cycling protocol  
This cycling protocol should be applicable to most amplifications where the primer melting temperature (T<sub>m</sub>) are designed to be 60°C.

| Cycling Step                                | Temperature                         | Holding Time    | Number of cycles |
|---|-------------------------------------|-----------------|------------------|
| Enzyme activation                           | 95°C                                | 2 min           | 1                |
| Denaturation                                | 95°C                                | 1 - 15 sec      | 25-35            |
| Annealing / Extension /<br>Data acquisition | 60°C                                | 1 minute per kb |                  |
| Dissociation / Melt curve                   | Set up as per instrument guidelines |                 |                  |

- Three-step fast cycling protocol  
Use this protocol when optimal primer annealing and extension temperatures are desired.

| Cycling Step                 | Temperature                         | Holding Time    | Number of cycles |
|------------------------------|-------------------------------------|-----------------|------------------|
| Enzyme activation            | 95°C                                | 2 min           | 1                |
| Denaturation                 | 95°C                                | 1 - 15 sec      | 25-35            |
| Annealing                    | 50°C                                | 5 - 30 sec      |                  |
| Extension / Data acquisition | 72°C                                | 1 minute per kb |                  |
| Dissociation / Melt curve    | Set up as per instrument guidelines |                 |                  |

## Related Products

| Catalog number | Product   |
|----------------|---|
| 31043, 31044   | Forget-Me-Not™ Universal Probe qPCR Master Mix      |
| 31045          | Forget-Me-Not™ EvaGreen® qPCR Master Mix (Low ROX)  |
| 31046          | Forget-Me-Not™ EvaGreen® qPCR Master Mix (High ROX) |
| 31078          | N-Flux™ 5X Digital PCR Master Mix                   |
| 29051          | EvaEZ™ Fluorometric Polymerase Activity Assay Kit   |
| 31077          | EvaGreen® Plus Dye, 20X in Water                    |
| 31000          | EvaGreen® Dye, 20X in water                         |
| 40054          | dNTP Mix, 10 mM Each                                |
| 40053          | dNTP Mix, 25 mM Each                                |
| 40052          | dNTP Set, 100 mM Each                               |
| 29054          | HotStart Polymerase Modification Kit                |
| 40069          | PMAxx™, 20 mM in water, for viability PCR           |
| E90003         | Gel-Bright™ LED Gel Illuminator                     |
| 41003          | GelRed® Nucleic Acid Gel Stain, 10,000X in water    |
| 41029          | GelRed® Agarose LE                                  |
| 41030          | GelGreen® Agarose LE                                |
| 41028          | Agarose LE, Ultra-Pure Molecular Biology Grade      |
| 31022          | Ready-to-Use 1 kb DNA Ladder                        |
| 31032          | Ready-to-Use 100 bp DNA Ladder                      |

Please visit our website at [www.biotium.com](http://www.biotium.com) for information on our life science research products, including environmentally friendly EvaGreen® qPCR master mixes, fluorescent CF® dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.

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