



# DNA Extraction Solution

**Cat #: 42-503**

**Contents:** 100 Reactions

**Storage:** -20°C.

Reagent for *in vitro* laboratory use only

## General Description

**Apex** DNA Extraction Solution is designed for rapid and efficient extraction of PCR-ready DNA from various sample types; mammalian tissues (such as mouse tail and ear snips), plant leaves, saliva, and bacteria. The non-toxic DNA Extraction Solution enables the extraction of DNA from tissues in just 8 minutes. The extraction protocol is divided into two simple heating steps, which can be directly followed by PCR analysis, such as screening and genotyping.

The one-reagent set-up is easily scaled and can be conducted by robotic automation platforms. Depending on the sample size, the DNA extraction can be performed in PCR tubes or 1.5 ml tubes using either a thermocycler or heating block.

## Composition of Apex DNA Extraction Solution

- Optimized DNA Extraction Solution

## Storage and Stability

Long term storage at -20 °C. Product expiry at -20 °C is stated on the label.

**Optional:** Can be stored short term at +4 °C for up to 3 months.

**Apex** DNA Extraction Solution tolerates up to 20 freeze-thaw cycles.

It is recommended to aliquot the DNA Extraction Solution into smaller volumes before use.

## Quality Control

Each batch of DNA Extraction Solution is functionally tested.

## Extraction Protocol

Preparation of DNA extraction should be performed in a separate area from that used for setting up the PCR reaction.

1. Thaw DNA Extraction Solution. For the first time use, aliquot the DNA Extraction solution into smaller volumes. (DNA Extraction Solution has a cloudy appearance)
2. Add your sample to a tube containing 100 µl DNA Extraction Solution. Recommended sample sizes are shown in Table 1.
3. Vortex the tube containing the sample and the DNA extraction solution for 15 sec. Make sure that the sample is completely covered by the DNA Extraction Solution.
4. Transfer the tube to a heat block or a thermal cycler and incubate for:
  1. 65 °C for 6 min
  2. 98 °C for 2 min
  3. 4 °C (or cool down on ice)

The DNA extract is now ready for PCR.

DNA extracts are stable at -20 °C for one week or long term at -80 °C.

**Table 1. Sample sizes**

Sample - type	DNA Extraction Solution	
	100 µl	500 µl
Tissue*	0.5 – 10 mg	10 – 50 mg
Plant**	2 – 10 mg	10 – 50 mg
<i>E. coli</i>	1 colony (Ø 0.5 - 2 mm)	1 colony (Ø 0.5 - 5 mm)
Saliva	10 – 20 µl	50 - 100 µl

\* Examples of tested tissues include mouse tail snip, mouse organs and chicken breast. \*\*Examples of tested plant materials include leaves from stinging nettle and ivy.

## Related Products

Extraction Solution	Cat#
DNA Extraction Solution, 200 reactions	42-503
DNA Extraction Solution, 500 reactions	42-503B

Genotyping PCR kit	Cat#
Extract-Amp RED PCR Kit, 200 reactions	42-502
Extract-Amp RED PCR Kit, 500 reactions	42-502B

Taq Polymerase kits (500 units)	Cat#
With 10X Standard and Ammonium Reaction Buffer	42-800B1
With 10X Combination Buffer	42-800B3
Glycerol Free	42-800B4

Hot Start DNA Polymerase kit (500 units)	Cat#
With 10X Ammonium and Combination Reaction Buffer	42-106

All Taq and Hot start DNA polymerases are also available in kits, Mg<sup>2+</sup> free buffers and 50 mM MgCl<sub>2</sub>.

High Fidelity DNA Polymerase (500 units)	Cat#
With 5X High Fidelity Reaction Buffer	42-500B

Master Mixes (500 reactions)	Cat#
2X Taq RED Master Mix, 1.5 mM MgCl <sub>2</sub>	42-138
2X Taq Master Mix, Clear, 1.5 mM MgCl <sub>2</sub>	42-134
2X Hot Start Master Mix Buffer I, 1.5 mM MgCl <sub>2</sub>	42-198
2X Hot Start Master Mix Buffer I Blue, 1.5 mM MgCl <sub>2</sub>	42-144
2X High Fidelity Master Mix	42-501B

The shown Hot Start master mixes are ammonium based. Also available with balanced ammonium and potassium based buffers.

Real-time PCR (400 reactions)	Cat#
qPCR 2X Master Mix for Probe, without ROX <sup>TM</sup>	42-116P
qPCR 2X Master Mix for Probe, low ROX <sup>TM</sup>	42-118P
qPCR 2X Master Mix for Probe, high ROX <sup>TM</sup>	42-120P
qPCR 2X GREEN Master Mix, without ROX <sup>TM</sup>	42-116PG
qPCR 2X GREEN Master Mix, low ROX <sup>TM</sup>	42-118PG
qPCR 2X GREEN Master Mix, high ROX <sup>TM</sup>	42-120PG

Ultrapure dNTPs	Cat#
dNTP set, 100 mM each: 250 µl of each dA, dC, dG and dT	42-410
dNTP Set, 100 mM each: 1 ml of each dA, dC, dG and dT	42-403
dNTP Mix 40 mM (1 x 500 µl): 10 mM each dA, dC, dG, dT	42-411
dNTP Mix 100 mM (2 x 1 ml): 25 mM each dA, dC, dG, dT	42-405
dNTP Mix 10 mM (10 x 1 ml): 2.5 mM each dA, dC, dG, dT	42-406

Other concentrations and Single dNTPs are available

DNA Ladders	Cat#
Apex 100 bp-Low DNA Ladder, 250 applications	19-109
Apex 1 kb DNA Ladder, 333 applications	19-115
Apex 200 bp DNA Ladder, 200 applications	19-111
ECON Mini DNA Ladder 100-500 bp, 100 applications	19-130
ECON Low DNA Ladder 100-1000 bp, 100 applications	19-131
ECON PCR Ladder 100-3000 bp, 100 applications	19-132

Accessory reagents	Cat#
50 mM MgCl <sub>2</sub> , 3 x 1.5 ml	42-303
Nuclease-Free Water, PCR Grade, 6 x 5 ml	42-710