# **DNA Amplification** Reagents - Direct PCR kits

### Direct PCR kit, blood, Thermo Scientific Finnzymes Phusion

## Thermo

For amplification of DNA from whole blood.

- No need for DNA extraction
- Allows up to 40% blood in the PCR\* reaction
- Tolerates heparin, citrate, and EDTA, and is compatible with blood stored on various types of filter papers
- Modified Phusion Hot Start II DNA Polymerase produces specific and accurate results with high yields and short protocol times

#### It eliminates the need for DNA extraction or sample preparation prior to PCR.

The kit utilises a modified Phusion® Hot Start II high fidelity DNA polymerase. This highly processive and robust PCR enzyme is extremely tolerant of the inhibitors present in blood and retains its activity even at 40% blood concentration. Phusion blood direct PCR kit includes a complete set of optimised reagents and control primers. It allows analysis of a broad spectrum of blood samples.

Phusion blood direct PCR kit is designed for efficient amplification of DNA from various types of blood samples. The reaction components are optimised for PCR in the presence of blood. This, together with an extremely robust DNA polymerase, ensures excellent results with blood containing EDTA, heparin, or citrate as well as with blood stored on various types of filter papers, even those treated with preservatives. This kit is also compatible with blood from various species.

Catalogue No	Alt. No	Quantity
FZF-547S	F-547S	100 reactions in 20µL
FZF-547L	F-547L	500 reactions in 20µL



Phusion blood direct PCR kit delivers superior performance even at very high blood concentrations. Phusion blood direct PCR kit was compared to another kit designed for PCR directly from blood. A 588 bp genomic DNA fragment was amplified in the presence of increasing blood concentration in the reaction mixture. PCR was performed according to suppliers' instructions using Piko<sup>®</sup> thermal cycler and ultra-thin walled UTW<sup>®</sup> reaction vessels. Total cycling times indicated at bottom. + and - denote control reactions with or without purified DNA.

#### A. Various species

NEW



B. Various cards

50

NEW



Phusion blood direct PCR kit allows robust amplification from a wide variety of template sources. A) Amplification of a 237bp DNA fragment from whole blood of different vertebrates (5% blood in the reaction). B) Amplification of three DNA fragments from human blood collected on various filter papers. Piko thermal cycler and UTW reaction vessels were used in PCR. + and - denote control reactions with or without purified DNA.

### Direct PCR\* kit, animal tissue, Thermo Scientific Finnzymes Phire

## Thermo

Developed for amplification of DNA directly from a wide variety of animal tissues including mice, fish, birds and insects.

- Hot Start II DNA polymerase delivers high inhibitor tolerance, specificity and high yields
- No need for time-consuming DNA extraction
- Fast and simple protocols require minimal hands-on time
- Very little sample material required
- Compatible with tissues from various animal species, including mice, fish and insects

No DNA isolation is required prior to PCR. The kit is based on Hot Start II DNA polymerase, a specially engineered enzyme with a DNA binding domain. The unique features of this DNA polymerase make it extremely robust and tolerant of many PCR inhibitors present in unpurified animal tissues. This kit contains all the necessary components for amplification of DNA directly from animal tissues: optimised reagents, sampling tools and DNARelease™ additive, which can be used to improve the release of DNA from animal tissues. In addition, the kit includes control primers that can be used with numerous animal species. When combined with Thermo Scientific Finnzymes Piko® thermal cycler and UTW® vessels, PCR protocols can be completed in as little as 30min.

Catalogue No	Alt. No	Quantity
FZF-140	F-140	200 reactions (50µL each)



Two alternative protocols suitable for various purposes. In the direct protocol, a small piece of animal tissue is placed directly into the PCR reaction. In the dilution protocol, a small amount of animal tissue is first briefly incubated in incubation buffer and 1µL of this buffer is then added into the PCR reaction. The dilution protocol is useful if several PCR reactions are performed from the same sample, for example.



Direct PCR from various animal tissues. Small samples of various animal tissues were placed directly into 50µL PCR reactions. A specific DNA fragment was amplified with control primers included in the kit or, in the case of fruit fly and zebrafish, using control primers whose sequences are provided at Finnzymes website. + and - denote control reactions with or without purified DNA



Genotyping F2 transgenic mice. 0.50mm punches of mouse ear tissue were placed directly into 50µL PCR reactions. Two sets of primers were used in each reaction to genotype the 11 individual mice. The larger fragment was 490bp (transgenic) and the smaller fragment 250bp (wildtype).

\*Polymerase Chain Reaction (PCR) is a process covered by patents owned by Hoffman-La Roche