

# Direct lysis of fish fins using Q-Extract DNA Extraction Solution



## Overview

The Q-Extract DNA Extraction Solution (Ampliqon A/S) is designed for rapid and efficient extraction of PCR-ready DNA from mammalian tissues, plant leaves, bird feathers, bacteria and saliva. The non-toxic Q-Extract DNA Extraction Solution enables the extraction of DNA from mammalian 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. Here we describe an alternative Q-Extract protocol for the extraction of DNA from fish fins.

Q-Extract DNA Extraction Solution can be used for extraction of PCR-ready DNA from fish fin clips. The protocol is easy to handle and only requires 2 simple heating steps. The obtained fin clip lysates are ready for end-point PCR.

## Direct lysis method for fish fin clips

The fin clips are added into 2 ml tubes and covered completely with Q-Extraction DNA Extraction Solution (50 – 150 µl). The tubes containing the reactions are incubated at 70 °C for 20 – 40 minutes. Hereafter the tubes are transferred to a new heating block at 98 °C for 20 minutes.

## Screening or genotyping using end-point PCR

After cooling down, the lysates are ready for end-point PCR. We recommend the use of Taq DNA Polymerase 2x Master Mix RED or TEMPase Hot Start DNA Polymerase 2x Master Mix BLUE for end-point PCR. Combination packages are available, see ordering information p. 2.

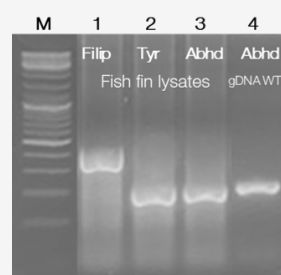


**Figure 1.** Fish fin clip lysates

**Figure 2.** Q-Extract DNA Extraction Solution were used the extraction of PCR-ready DNA from Zebra fish fin clips (*D. rerio*). The tubes containing the reactions were incubated at 70 °C for 20 minutes.

Hereafter the tubes are transferred to a new heating block at 98 °C for 20 minutes. 1 µl of the obtained lysates were used for amplification of three different gDNA targets; Filip (lane 1), Tyr (lane 2) and Abhd (lane 3). As control Wild type *D. rerio* gDNA was used for amplification of the Abhd DNA target (lane 4).

The amplification was run on Veriti™ 96-Well Thermal Cycler (Applied Biosystems™). Additional information about each lane can be found in table 1. The PCR setup and the applied PCR program can be found in table 2 and table 3, respectively.



**Table 1.** Lanes used for end-point PCR

Lane	Lysates	DNA target
1.	1_ Fin clips 20 min	Filip
2.	1_ Fin clips 20 min	Tyr
3.	1_ Fin clips 20 min	Abdh
4.	gDNA WT 25 ng/µl	Abdh

**Table 2.** PCR setup

Component	Volume	Conc.
Master Mix	6.25 µl	1x
Forward primer	0.125 µl	0.2 µM
Reverse primer	0.125 µl	0.2 µM
Lysate	1 µl each	
PCR Grade Water	5 µl	
Total volume	12.5 µl	

**Table 3.** PCR program

Cycles	Temp.	Time
1	95 °C	15 min
15	95 °C	30 sec
	*72 °C	30 sec
	72 °C	30 sec
25	95 °C	30 sec
	58 °C	30 sec
	72 °C	30 sec
1	72 °C	30 min
1	12 °C	End

\*Touch down -1 °C pr. cycle.

# APPLICATION NOTE

## Extraction Protocol Fish Fin Clips

1. Add fish fin clips to a 2 ml tube\*.
2. Cover the fin clips with 50 – 150 µl of Q-Extract DNA Extraction Solution. Make sure that the fin clips are completely covered.
3. Transfer the tube to a heat block or a thermal cycler and incubate for
  1. 70 °C for 20 - 40 min
  2. 98 °C for 20 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 storage at -80 °C.

\*If the fish fin samples are preserved in ethanol, then the ethanol must be removed before the DNA extraction. Place the 2 ml tubes containing the fin clips in a heating block set at 80 - 90 °C until no traces of EtOH are visible or can be smelled.

## Ordering information

Product	RXN	Cat #
Q-Extract DNA Extraction Solution	100 500	A560001 A560004
Q-Extract DNA Extraction PCR Kit Incl. Taq DNA Polymerase 2x Master Mix RED	100 500	A570001 A570004
Q-Extract DNA Extraction Hot Start PCR Kit incl. TEMPase Hot Start DNA Polymerase 2x Master Mix A BLUE	100 500	A574401 A574404
SAMPLES:		
Q-Extract DNA Extraction Solution	20	A560099
Q-Extract DNA Extraction PCR Kit	20	A570099
Q-Extract DNA Extraction Hot Start PCR Kit	20	A574499

\* 1 reaction = 100 µl Q-Extract DNA Extraction Solution + 12.5 µl Taq DNA Polymerase 2x Master Mix RED (final PCR reaction 25 µl)

More sizes and variants available at [www.ampliqon.com](http://www.ampliqon.com)



Q-Extract DNA  
Extraction Solution



Q-Extract DNA  
Extraction PCR Kit



Q-Extract DNA  
Extraction Hot  
Start PCR Kit

PCR ENZYMES MADE IN DENMARK

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