Control PCR

Control PCR – optional PCR assay to be used with
MolYsis-SN*plus*™ IVD

– For research use only –
– Not for use in diagnostic procedures –

molzym
reveal DNA

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Contents

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Kit Information

Kit Content

Control PCR	**48 rxn (S-080-0048)**
PCR Reagents (*store at -15 to -25°C*)	
MA Control - Mastermix Assay Control, 2.5x conc.	2x 0.36 ml
MolTaq 16S/18S	2x 0.05 ml
H_2O - DNA-free PCR-grade water	2x 0.75 ml
DS - DNA staining solution, 10x conc.	2x 0.30 ml
Control DNA (50x)	3x 0.01 ml
Dilution buffer	3x 1.00 ml
Manuals	
Manual	1x
Short manual sheets	1x

Symbols (labelling)

Batch code

Catalogue number


Caution


Consult instructions for use


Contains sufficient for <n> tests

Content of the package


Keep away from sunlight


Temperature limit, store at


Use-by date


Manufacturer

Packaging, Storage and Handling

The purification and packaging of the components supplied in this kit is performed under standard precautions for the avoidance of air-borne and handling-based DNA contaminations.

Guarantee for ***full performance*** of reagents and buffers is given through the ***expiration date*** printed on the label at the outer box, if the ***packed material is undamaged*** upon arrival and the reagents are unopened. Guarantee for full performance of ***Control PCR*** as specified in this manual is only valid if storage conditions are followed (Table 1, page 4).

Opened components are stable as mentioned in Table 1, page 4, and must be used as specified by the protocol.

PCR Reagents:

Take care that the vials of the PCR unit have to be stored at -15 to -25°C upon delivery.

MA Control

The *MA Control* is supplied as a 2.5x concentrated solution in DNA-free screw cap vials. For usage, the *MA Control* is thawed at room temperature (+18 to +25°C) and thereafter placed in cooling racks adjusted to -15 to -25°C. After use, the *MA Control* can be stored in the refrigerator (+4 to +12°C) for further use at the same day but should be replaced to -15 to -25°C for longer storage.

MolTaq 16S/18S

The enzyme has to be kept at -15 to -25°C throughout handling (cooling rack). Replace *MolTaq 16S/18S* to the freezer (-15 to -25°C) after handling.

DS

Do not freeze again and store at +4 to +12°C for further use.

It is important to note that the DNA staining solution (*DS*) is sensitive to light and must be stored dark during handling and storage.

H_2O

For usage, the *H_2O* is thawed at room temperature (+18 to +25°C) and thereafter placed in cooling racks adjusted to -15 to -25°C. After use, the *H_2O* must be stored in the refrigerator (+4 to +12°C) for further use at the same day but must be replaced to -15 to -25°C for longer storage.

Control DNA (50x)

The DNA must be stored at +4 to +12°C after the first handling.

Dilution buffer

The buffer must be stored at +18 to +25°C after the first handling.

Table 1: Storage of the Control PCR components (*exp. date: expiration date of the kit).

Components	Storage Temperature	Working Temperature	Storage & Stabilitiy after use Temperature	Days (dark)*
PCR Reagents:				
MA Control	-15 to -25°C	+18 to + 25°C	+4 to + 12°C -15 to -25°C	1 (thereafter freeze) exp. date
MolTaq 16S/18S	-15 to -25°C	-15 to -25°C	-15 to -25°C	exp. date
H2O	-15 to -25°C	+18 to + 25°C	+4 to + 12°C -15 to -25°C	1 (thereafter freeze) exp. date
DS (DNA Staining Solution)	-15 to -25°C	+18 to + 25°C	+4 to + 12°C	exp. date
Control DNA (50x)	-15 to -25°C	+18 to + 25°C	+4 to + 12°C	exp. date
Control DNA (1x) (positive PCR control)	1:50 dilution of *Control DNA (50x)*	+18 to + 25°C	+4 to + 12°C	60
Dilution buffer	-15 to -25°C	+18 to + 25°C	+18 to + 25°C	exp. date

Intended Use and Indication

The ***Control PCR*** is an optional test for ***MolYsis-SNplus™ IVD*** IVD to check the internal extraction control in the eluted samples. The *Buffer cartridge* (***MolYsis-SNplus™ IVD***) contains an internal extraction control DNA which is passed through the extraction process ending up in the eluate. The internal extraction control is a DNA template and can be used as a process control to monitor DNA extraction from samples as well as the absence of PCR inhibitors.
The ***Control PCR*** in combination with the eluate containing the control DNA leads to the formation of an amplicon and is therefore suitable for confirming the correct function of the DNA extraction process.

Contraindication

Control PCR is not initiated for use as a stand-alone assay and for use in diagnostic procedures.

Product Use Limitations

The ***Control PCR*** kit is **only to be used** as an optional assay in combination with the following kit: ***MolYsis-SNplus™ IVD***

Apparatuses and Consumables to be Supplied by the User

The following equipment, consumables and reagents not supplied with this kit are recommended to be used.

PCR amplification:

- 1x low speed mini-centrifuge (e.g., MiniFuge, VWR, Darmstadt, Germany) or a bench top microcentrifuge (e.g., miniSpin, Eppendorf, Germany)
- 1x vortexer, e.g., VWR, Darmstadt, Germany
- 1x cooling rack for 1.5 ml tubes (-15 to -25°C)
- 1x cooling rack for 0.2 ml PCR tubes or plates (-15 to -25°C)
- Real-Time PCR cycler, validated instruments see page 6, other cyclers have to be validated first.
- 1x set of precision pipettes: up to 10 µl, up to 20 µl, up to100 µl, up to 200 µl and up to 1000 µl, e.g., Eppendorf, Germany

Plastic Consumables and reagents:

- DNA- and DNase-free pipette tips (with aerosol filter), e.g., Biosphere® plus, Sarstedt, Germany
  - 10 µl type Eppendorf (70.1114.210)
  - 100 µl type Eppendorf (70.760.212)
  - 300 µl type Eppendorf (70.3040.255)
  - 1000 µl type Eppendorf (70.3050.255)
- 1.5 ml micro polypropylene tubes (DNA- and DNase-free), e.g., Biosphere® plus, Sarstedt, Germany (72.706.200)
  - For the set-up of the assay *MA Control*
  - For the preparation of positive PCR control *Control DNA (1x)*
- PCR tubes (DNA- and DNase-free), e.g., PCR strip of 4, 200 µl, Biosphere® plus, Sarstedt, Germany (72.990)
- Surface decontamination, e.g., Meliseptol® New Formula (rapid disinfectant, ethanol containing), B. Braun, Germany (19758)
- Disposables
  - Lab coat, e.g., VWR, Germany
  - Sterile gloves, e.g., Kimberly-Clark, Germany
  - Sterile sleeves, e.g., Cardinal Health, Ireland
  - Bouffant covers, e.g., VWR, Germany
  - Hygiene mask, e.g., VWR, Germany
  - Overshoes, e.g., hygi, Germany
- Waste container for plastics and liquid waste, autoclavable

Description of the Assay

The internal extraction control testing with ***Control PCR*** can optionally be performed with each eluate sample containing Control DNA obtained with the MolYsis-SN*plus*™ IVD kit (U-300-048).

The internal extraction control is a DNA template which can be used as a process control for the DNA extraction from samples as well as the absence of PCR inhibitors.

This kit supplies an assay (*MA Control*, Kit 1) to which an aliquot of the eluate containing the control DNA can be added. Generation of an amplicon indicates the correctness of the DNA extraction and purification process. Also, the absence of co-eluted PCR inhibitors can be indicated.

Protocols for amplification are privided for the following Real-Time PCR instruments:

- LightCycler® 1.5, 2.0, 96, 480 and Nano, Roche
- DNA Engine Opticon®, CFX96™, BioRad
- Mx3000P®, Mx3005P®, Stratagene
- ABI 7500 Fast®, Life Technologies
- Rotor-Gene®, Qiagen
- peqStar 96Q, peqlab

If using other instruments, make sure that the assay ***Control PCR*** perform correctly with the cycler. The positive PCR control *Control DNA (1x)* can be used for the validation.

PCR Controls

Positive PCR Control

This test includes a positive PCR control for the assay Control PCR. The *Control DNA (50x)* corresponds to the DNA template contained in the sample eluate from the extraction with ***MolYsis-SNplus™ IVD***. The *Control DNA (50x)* is used as a positive PCR control at a dilution (*Control DNA (1x)*) in the PCR.
Prepare the positive PCR control at a place where samples are handled.

Make sure to work under **DNase-free** conditions.

Preparation of *Control DNA (1x)*:
Thaw *Control DNA (50x)* and *Dilution buffer*. Vortex the *Control DNA (50x)* and *Dilution buffer* vials and pulse centrifuge. Pipette 245 µl of the *Dilution buffer* in a 1.5 ml polypropylene tube, add 5 µl *Control DNA (50x)* and vortex to mix. Label the dilution with '*Control DNA (1x)'* and the preparation date.

The *Control DNA (1x)* is stable for 60 days after dilution.

Do not use the *Control DNA (1x)* for **longer than 2 months** and store it at **+4°C to +12°C.**

Negative PCR Control (Reagent Control)

For the negative PCR Control the supplied DNA-free PCR-grade water (H_2O) is added instead of the eluate. The negative PCR control is designed to detect any *Control DNA* that enters the test as carry-over or handling contamination during PCR setup and pipetting.

Avoidance of Contamination

Samples:
Care should be taken to avoid DNA contamination from exogenous sources. This includes the complete pathway from sample collection to analysis. Also, it is important to minimise cross-contamination from sample to sample.

PCR analysis:
Use only DNA- and DNase-free pipette tips, vials and consumables recommended (page 5).

Pre-Analytics - DNA Isolation

For the DNA Isolation of the samples see 'Automated Microbial DNA Isolation' of the ***MolYsis-SNplus™ IVD*** manual.

Analytics – PCR Detection

Wear recommended protective clothing (page5) during the setup of the Control PCR assay. Work in a PCR cabinet irradiated with UV before starting according to the instruction manual of the manufacturer. Do not work under UV irradiation.

How to Start

! For equipment, consumables and reagents to be supplied by the user see page 5.

Avoidance of Contamination

! Work in a PCR cabinet.
! Take care that all handling is performed in a DNA- and DNase-free environment.
! For each pipetting use fresh tips.
! To avoid contamination, close caps immediately after removal of solution.

Storage of the PCR Reagents after Handling

! After use, keep the *MA Control* and H_2O in a refrigerator (+4 to +12°C) if reused at the same day or store at -15 to -25°C for longer periods.

! Replace *MolTaq 16S/18S* in a cooling rack (-15 to -25°C). Always keep and store *MolTaq 16S/18S* at -15 to -25°C.

Do not interrupt the cooling of *MolTaq 16S/18S*.

! After first use, store DNA staining solution (*DS*) in the dark at +4 to +12°C.

Do not re-freeze.
***DS* is light sensitive.**

! After the first use, store *Control DNA (50x)* at +4 to +12°C.

Do not re-freeze.

! Store *Control DNA (1x)* at +4 to +12°C.

Do not re-freeze. Control DNA (1x) is stable for 60 days after preparation.

! After the first use, store *Dilution buffer* at +18 to +25°C.

Do not re-freeze.

PCR Assaying

For the Control PCR, the following PCR reactions have to be run:

- 1 reaction per sample
- 1 reaction for the positive PCR Control (PC, *Control DNA (1x)*)
- 1 reaction for negative PCR Control (NC, template H_2O)

Before starting with the mastermix preparation (section 'Setup of the Assay, page 10):

- Thaw the following vials at room temperature (+18 to +25°C):

  - *MA Control* (2.5x conc.)
  - H_2O
  - *DS* (10x conc.; light sensitive) 
  - *Control DNA (50x)*
  - *Dilution buffer*

  Vortex thawed PCR reagent vials (*MA Control*, H_2O and *DS*) for a few seconds to mix and briefly centrifuge to clear the lid.

- Preparation Positive PCR Control (PC, *Control DNA (1x)*):

  1. Vortex the *Control DNA (50x)* and *Dilution buffer* vials and pulse centrifuge.
  2. Pipette 245 µl *Dilution buffer* in a 1.5 ml polypropylene tube (not supplied).

     Tubes used must be DNA- and DNase-free (e.g., see page 5).

  3. Add 5 µl *Control DNA (50x)* into the tube (with dilution buffer) and vortex to mix.
  4. Briefly centrifuge to clear the lid.
  5. Label the dilution with '*Control DNA (1x)*' and the preparation date.

     Do not use the *Control DNA (1x)* for **longer than 2 months** and store it at **+4°C to +12°C.**

Note: The term 'mastermix' refers to the mix of the components of Table 2, page 10. Control PCR refers to the assay of the analysis.

Setup of the Assay

Keep all tubes filled with mastermix chilled in the cooling racks, until placing in the PCR cycler. Cooling of the tubes and the *MolTaq 16S/18S* is important to avoid the generation of primer dimers.

Preparation of mastermix

1. **Pre-chill the PCR tubes/strips/plates (not supplied) in a PCR cooling rack (-15 to -25°C) and mark them.**
2. **Briefly centrifuge *MolTaq 16S/18S* and place it in the cooling rack (-15 to -25°C).**
3. **Use a 1.5 ml polypropylene tube (not supplied) for the mastermix. Place the tube in a cooling rack. Pipette the supplied and prepared components (PCR Assaying page 9) into the tube (according to Table 2). Vortex the tube to mix and briefly centrifuge.**

Table 2: Preparation of mastermix. Volumes in µl.

Reactions	*MA Control*	*H_2O*	*DS*	*MolTaq 16S/18S*
1	10.0	7.5	2.5	0.8
2	20.0	15.0	5.0	1.6
3	30.0	22.5	7.5	2.4
4	40.0	30.0	10.0	3.2
5	50.0	37.5	12.5	4.0
6	60.0	45.0	15.0	4.8
7	70.0	52.5	17.5	5.6
8	80.0	60.0	20.0	6.4
9	90.0	67.5	22.5	7.2
10	100.0	75.0	25.0	8.0

4. **Pipette 20 µl of the mastermix into each PCR tube (dedicated for samples, PC and NC, respectively).**

Template loading

5. **Add 5 µl *H_2O* (NC, DNA-free water) into the NC PCR tube containing mastermix.**
6. **Pipette 5 µl of each sample eluate into the PCR tubes containing mastermix.**
7. **Pipette 5 µl of positive PCR control (PC, *Control DNA (1x)*) into a PCR tube containing mastermix.**
8. **Close PCR tubes with caps.**

9. **Continue with section PCR Thermocycling, page 11.**

PCR Thermocycling

Transfer filled PCR tubes to the PCR cycler in a cooling rack (-15 to -25°C).

I) Roche LightCycler® 1.5 and 2.0 (25 µl final volume per assay)

Transport filled capillaries to a place where PCR runs are performed and programme the Real-Time PCR machine as described below. Set the appropriate channel to SYBR® Green 1 detection.

Method	Cycles	Analysis Mode	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition [per °C]	Acquisiton Mode
Initial denaturation	1	None	95	00:01:00	4.00	-	NONE
Cycling	40	Quantification	95	00:00:05	4.00	-	NONE
			55	00:00:05	4.00	-	NONE
			72	00:00:25	4.00	-	SINGLE
Melting	1	Melting Curve	95	00:00:00	20.00	-	NONE
			65	00:00:15	20.00	-	NONE
			95	00:00:00	0.05	-	CONT
Cooling	1	None	40	00:00:05	20.00	-	NONE

II) Roche LightCycler® 96

Method	Cycles	Analysis Mode	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition [per °C]	Acquisiton Mode
Initial denaturation	1	None	95	00:01:00	4.40	-	None
Cycling	40	Quantification	95	00:00:05	4.40	-	None
			55	00:00:10	2.20	-	None
			72	00:00:25	4.40	-	Single
Melting	1	Melting Curve	95	00:00:01	4.40	-	None
			70	00:00:01	2.20	-	None
			95	-	0.2	5	Continuous
Cooling	1	None	40	00:00:10	-	-	-

III) Roche LightCycler® 480

Method	Cycles	Analysis Mode	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition [per °C]	Acquisiton Mode
Initial denaturation	1	None	95	00:01:00	4.40	-	None
Cycling	40	Quantification	95	00:00:05	4.40	-	None
			55	00:00:10	2.20	-	None
			72	00:00:25	4.40	-	Single
Melting	1	Melting Curve	95	00:00:01	4.40	-	None
			70	00:00:01	2.20	-	None
			95	-	0.11	5	Continuous
Cooling	1	None	40	00:00:10	-	-	-

IV) Roche LightCycler® Nano

Set the appropriate channel to SYBR® Green I detection.

Method	Cycles	Programs	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition Mode
Initial denaturation	1	Hold	95	00:01:00	5.00	
Cycling	40	Quantification	95	00:00:05	2.00	
			55	00:00:05	2.00	
			72	00:00:25	2.00	✓ Acquire
Melting	1	Melting	60	00:00:20	4.00	
			95	00:00:20	0.1	
Cooling	1	Hold	40	00:00:05	5.00	

V) BioRad DNA Engine Opticon® and CFX96™

Method	Cycles	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition Mode
Initial denaturation	1	95	00:01:00		
Cycling	40	95	00:00:05		
		55	00:00:05		
		72	00:00:25		Reading point after 72°C step
Method	**Cycles**	**Melting Curve**			
Melting Curve	1	from 70°C to 95°C	Read every 0.2°C, hold for 1s between reads		

VI) ABI 7500 Fast®

Switch off the ROX reference.

Method	Cycles	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Acquisition Mode
Initial denaturation	1	95	00:01:00		
Cycling	40	95	00:00:05		
		55	00:00:10		
		72	00:00:25		on
Melting Curve	1	95	00:00:15		
		70	00:01:00		
		95		0.2	
		95	00:00:15		
Cooling	1	60	00:00:15	100 %	

VII) Stratagene Mx3000P® and Mx3005P®

Method	Cycles	Target Temperature [°C]	Incubation time [hh:mm:ss]	Amplification averaging point	Dissociation averaging points	Dissociation point separation
Initial denaturation	1	95	00:01:00			
Cycling	40	95	00:00:15			
		55	00:00:15			
		72 (reading point)	00:00:30			
Melting Curve	1	95	00:01:00			
		55	00:00:30			
		95		3	3	0.5°C

VIII) Peqlab peqStar 96Q

Method	Cycles	Target Temperature [°C]	Incubation time [hh:mm:ss]	Ramp rate [°C/s]	Step	Step Holding Sec.
Hold Stage	1	95	00:01:00	4		
PCR Stage	40	95	00:00:05	4		
		55	00:00:10	4		
		72 (Sampling)	00:00:25	4		
Melting Stage	1	95	00:00:01	4		
		70	00:00:01	4	0.1	00:01
		95 (Sampling)	00:00:01	4		
Infinite Stage	1	8	∞	4		

IX) Qiagen Rotor-Gene®

To program a new run for melting curve analyses select: Three steps with Melt.

Amplification				
Method	**Cycles**	**Target Temperature [°C]**	**Incubation time [hh:mm:ss]**	**Acquisition Mode**
Hold	1	95	00:01:00	
Cycling	40	95	00:00:05	
		55	00:00:15	
		72	00:00:30	Acquiring to cycle A; Acquiring channel A

Melting				
Method	**Ramp Parameters**			**Acquire**
Melt	from	70	degrees	Melt A: on Green
	to	95	degrees	
	Rising by	0.2	degree(s) each step	
	Wait for	90	seconds of pre-melt conditioning on first step	
	Wait for	1	seconds for each step afterwards	
	Gain-Optimisation			
	☐ Optimise gain before melt on all tubes The gain giving the highest fluorescence less than will be selected			95

Guidance to the Interpretation of PCR Results

The **Control PCR** assay is a test to check the performance of the DNA extraction process and to confirm the absence of co-eluted PCR inhibitors in the sample DNA eluates (**MolYsis-SN*plus*™ IVD**).

Validity of results:

For the interpretation of the assay results use only the melting curve analysis and ignore the Ct values (amplification curve).

Only if the negative PCR control shows no PCR signal, the positive PCR control (PC, *Control DNA (1x)*) and the samples show a specific peak in the melting curve analysis, the results can be considered valid.

The melt temperature of specific and potentially unspecific peaks depends on the used Real-Time PCR instruments. In the following sections examples are presented using the Roche LightCycler®96. Here, the specific peak of the internal extraction control is located at approximately 90°C (Fig. 1, page 14, red melting curves). It is important to calibrate other Real-Time PCR instruments for the specific melting point temperature of the internal extraction control peak (see part ‘Description of the Assay’ page 6).

The specific peak can vary in height (part 2 of Fig. 1, page 14, green melting curves). In some cases, eluates of the samples can show one or two unspecific peaks (part 1 of Fig. 1, page 14, blue and green melting curves). In all cases, a distinct peak must show up in the specific temperature range of the internal extraction control (e.g., part 1 of Fig. 1, page 14, blue, red and green melting curves) for valid results.

Absence of a peak in the specific temperature range indicates a negative result of the assay. In this case, the results are invalid, and the extraction has to be repeated.

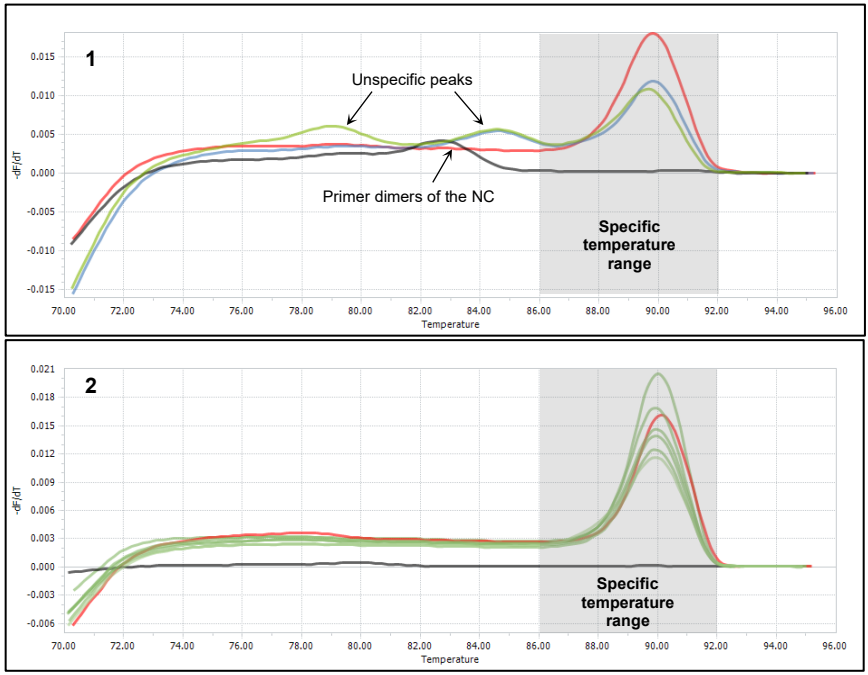

Fig. 1: Melting curve analysis (Roche LightCycler® 96) of a negative reference internal extraction control (NC, black curve), a positive PCR control (PC, *Control DNA (1x)*, red curve) and eluates of samples showing different peaks (green and blue curves) in assay *MA Control*. The red positive PCR control curve shows the specific peak (approx. 90°C) of the Control DNA.

Part 1: The blue sample curve shows the specific peak and an unspecific peak (85°C). The green sample curve shows three peaks (specific peak at 90°C and two unspecific peaks at 85°C and 79°C). Part 2: The green curves show the variety in height of the specific peak. All results are valid.

Safety Information

When working with chemicals, always wear a suitable protective clothing. The ingredients of this kit do not require Material Safety Data Sheets (MSDS's).

For more information, please consult the appropriate indication of material safety data sheets (MSDS) which are available on request.

Supplementary Information

Troubleshooting

This guide may help solve problems that may arise. For further support:
Phone: +49(0)421 69 61 62 0 • **E-Mail:** support@molzym.com

Observation	Possible cause	Comments/suggestions
No signal in PCR	• *MolTaq 16S/18S* not added • *DS* not added • *MA Control* not added • H_2O not added	Make sure that all reagents of the mastermix have been added. Make sure that the *MolTaq 16S/18S* is not frozen when pipetting.
False positive PCR result (signal in negative PCR control)	• Cross contamination • Contamination during handling.	Principally, work under UV-irradiated workstations. Avoid the generation of aerosols by careful pipetting the samples and buffers. Open buffer bottles only shortly for pipetting and close again immediately thereafter. Frequently change gloves. UV-irradiate the workstation at the end of handling a series of samples. Prepare mastermixes and handle DNA samples under different UV workstations (page 7).
False negative PCR result (no signal in assay)	• PCR inhibitors co-eluted • Use of a non-validated PCR cycler	Ensure that the extraction process in the SelectNA™*plus* instrument was successful. See 'False negative analysis result' in the section 'Troubleshooting' of MolYsis-SN*plus*™ IVD manual. Make sure, that positive PCR control (PC, *Control DNA (1x)*) result in a positive signal in the melting curve analysis. Ensure to only use validated real-time PCR cycler for the analysis. Otherwise, make sure that the assay *Control PCR* perform correctly with the cycler. (see page 6).
False negative PCR result in the PC (no signal in positive PCR control)	• Control contains DNase or PC is expired	Make sure, to use only tubes which are DNase-free for the preparation of the positive PCR control (PC, *Control DNA (1x)*). Work in a DNase free environment. Use a fresh prepared positive PCR control not older than 60 days after preparation.

Tradenames

Tradename	Company
ABI 7500 Fast®	Life Technologies
Biosphere®plus	Sarstedt
CFX96™	BioRad
DNA Engine Opticon®	BioRad
Control PCR	Molzym
LightCycler® 1.5, 2.0, 96, 480 and Nano	Roche
Mastermix 16S Complete	Molzym
Mastermix 18S Complete	Molzym
Meliseptol® New Formula	B. Braun
MolYsis-SN*plus*™ IVD	Molzym
Mx3000P® and Mx3005P®	Stratagene
PCR strip of 4, 200 µl, Biosphere® plus	Sarstedt
peqStar 96Q	peqlab
Rotor-Gene®	Qiagen
SelectNA™*plus*	Molzym
SYBR® Green1	Invitrogen

Order Information

Product	Contents and Application	Cat. No.
Control PCR	**48** reactions	S-080-0048
For research-use-only	PCR assay to optionally be used with MolYsis-SN*plus*™ IVD	
Products for the use of the *Control PCR* kit:		
MolYsis-SNplus™ IVD	**48** reactions	U-300-048
CE IVD	Automated human DNA depletion and bacterial & fungal DNA isolation from body fluids, swabs and tissues.	

Order Hotline:

Tel.: +49(0)421 69 61 62 0 • **Fax:** +49(0)421 69 61 62 11 • **E-Mail:** order@molzym.com

Technical Support

If you have questions on the kit, please connect with us.

Tel.: +49(0)421 69 61 62 0 • **E-Mail:** support@molzym.com

Contact

Molzym GmbH & Co. KG
Mary-Astell Str. 10
28359 Bremen, Germany

Tel.: +49(0)421 69 61 62 0 • **Fax:** +49(0)421 69 61 62 11
E-Mail: info@molzym.com • **Web:** www.molzym.com