

Spectral Calibration Plates with ABY® or JUN® Dye for Multiplexing

Pub. Part no. 100022948 Rev. A Rev. Date January 2014

96-well plates

Part Number	Part	Storage Conditions
A24737	96-Well Spectral Calibration Plate with JUN® Dye for Multiplex qPCR	Store at -15°C to -25°C
A24738	96-Well Spectral Calibration Plate with ABY® Dye for Multiplex qPCR	

Fast 96-well plates

Part Number	Part	Storage Conditions
A24735	Fast 96-Well Spectral Calibration Plate with JUN® Dye for Multiplex qPCR	Store at -15°C to -25°C
A24734	Fast 96-Well Spectral Calibration Plate with ABY® Dye for Multiplex qPCR	

384-well plates

Part Number	Part	Storage Conditions
A24733	384-Well Spectral Calibration Plate with JUN® Dye for Multiplex qPCR	Store at -15°C to -25°C
A24736	384-Well Spectral Calibration Plate with ABY® Dye for Multiplex qPCR	

Note: For safety and biohazard guidelines, refer to the “Safety” section in the appropriate user guide for your instrument. For every chemical, read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Description

The Spectral Calibration Plates with ABY[®] or JUN[®] Dye for Multiplexing are used for spectral calibration of Applied Biosystems[®] Real-Time PCR instruments. Perform calibration during installation and as part of routine instrument maintenance.

For information on instrument setup, the calibration process, and data analysis, refer to the appropriate user guide for your instrument.

For more information, visit our web site: <http://www.lifetechnologies.com>



For Research Use Only. Not for use in diagnostic procedures.

Important Licensing Information

This product may be covered by one or more Limited Use Label Licenses. By use of this product, you accept the terms and conditions of all applicable Limited Use Label Licenses.

Limited product warranty

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For support visit www.appliedbiosystems.com/support
www.lifetechnologies.com

life
technologies™

Certificate of Analysis



96-Well Spectral Calibration Plate with JUN[®] Dye for Multiplex qPCR

Product No. **A24737**
Lot No. **2203049**
Date of Manufacture **04APR2022**
[Optional Field]: Expiration Date **04APR2023**

TEST	SPECIFICATION	RESULT
Material Test Life Technologies uses spectrofluorimetric analysis to test fluorescence emission wavelength maximum in each lot of component bulk material used in the Spectral Calibration Kit. JUN [®] Dye	614 ± 5 nm	615 nm

For Research Use Only. Not for use in diagnostic procedures.

Manufactured in compliance with our ISO 9001 and ISO 13485 certified quality management system.

Site: Singapore

Life Technologies Holdings Pte Ltd, Block 33, Marsiling Industrial Estate Road 3, #07-06,
Singapore 739256 Tel: (65) 6362 9300

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08 APR 2022

[SIGNATURE]

Quality Assurance
Issued [08APR2022]

Life Technologies
5791 Van Allen Way
Carlsbad, CA, USA 92008
www.lifetechnologies.com
For inquiries, contact us at cofarequests@lifetech.com.

TaqMan multiplex real-time PCR

Get more data out of your sample

- A complete multiplex real-time PCR (qPCR) solution for gene expression and genotyping applications
- Applied Biosystems™ ABY™ and JUN™ dyes, QSY™ quencher, and a multiplex master mix for optimal amplification performance
- Up to 4-plex reactions—as sensitive as singleplex reactions, decreases the starting material required, and minimizes optimization processes

Obtaining the maximum amount of genetic information from an important but small amount of sample can be challenging. This is particularly true with formalin-fixed, paraffin-embedded (FFPE) samples or tumor biopsies that are used for translational research studies. Singleplex qPCR is frequently used for these clinical research samples, but this typically has a higher cost per sample than running in multiplex format. The additional time and materials required to set up multiple single-assay reactions could also significantly increase the cost of a complex project.

Multiplex qPCR, a strategy where more than one target in a sample is amplified and quantified in a single tube, can decrease the quantity of sample material and reagents required. A complete solution for multiplex qPCR is presented here,

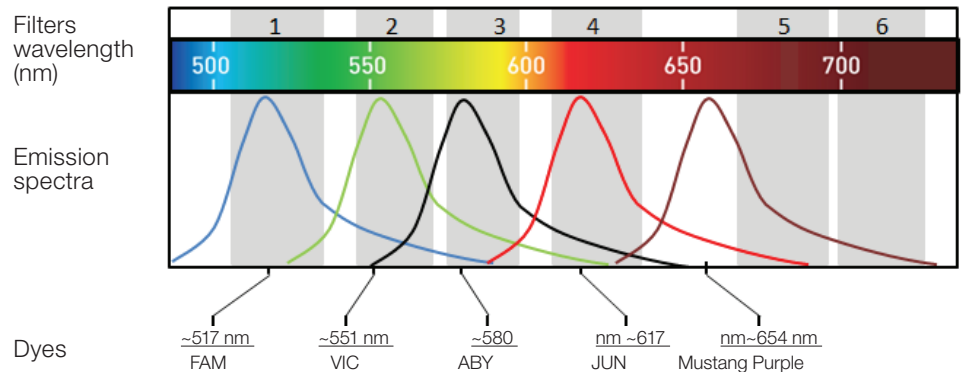


Figure 1. Fluorescence emission spectra of FAM, VIC, ABY, and JUN dyes used for multiplex real-time PCR. Grey zones represent the filters available on Applied Biosystems™ real-time PCR systems: 1 through 6 for the QuantStudio™ 7 or 12K Flex Real-Time PCR Systems; 1 through 5 for the QuantStudio™ 6 Flex Real-Time PCR System, ViiA™ 7 Real-Time PCR System, and 7500 or 7500 Fast Real-Time PCR System. MP = Mustang Purple™ dye.

with components designed to work together for better data quality and less time for optimization. The solution consists of the following:

- Applied Biosystems™ TaqMan® probes using QSY quencher, providing maximal PCR efficiency in a multiplex format. These probes can be ordered with Applied Biosystems™ FAM™ and VIC™ dyes and also with the ABY and JUN dyes, allowing amplification of up to 4 targets in a single reaction. These reporter dyes are optimized to work together with minimal spectral overlap for improved performance (Figure 1). In addition, the QSY quencher is fully compatible with probes that have minor-groove binder (MGB) quenchers.

- The Applied Biosystems™ TaqMan® Multiplex Master Mix was developed to allow amplification of 4 targets simultaneously, without competition between targets. This master mix contains the Applied Biosystems™ Mustang Purple™ dye, a passive reference used for normalization instead of the Applied Biosystems™ ROX™ dye, allowing for measurement of JUN dye in the channel previously used to measure ROX dye.

- Off-the-shelf, predesigned assays— an RNase P assay using an ABY-QSY probe and a GAPDH assay using a JUN-QSY probe. Both assays are available in limited and nonlimited primer concentrations.
- Calibration plates for ABY, JUN, and Mustang Purple dyes, available in 96-well, 96-well Fast, and 384-well formats.
- Additional services provided through our custom services program— save time and let our Applied Biosystems™ TaqMan® Assay experts design your multiplex assays.

This multiplex solution is compatible with the Applied Biosystems™ QuantStudio™ 6, 7, and 12K Flex Real-Time PCR Systems, as well as the Applied Biosystems™ ViiA™ 7 Real-Time PCR System and the Applied Biosystems™ 7500 and 7500 Fast Real-Time PCR Systems.

Multiplexing without compromise

The multiplex format enables cost savings and preservation of limited sample, but it's important to obtain the same sensitivity as in the singleplex format. Figure 2 demonstrates comparable results between reactions performed in individual tubes or in 4-plex reactions for a gene quantification experiment.

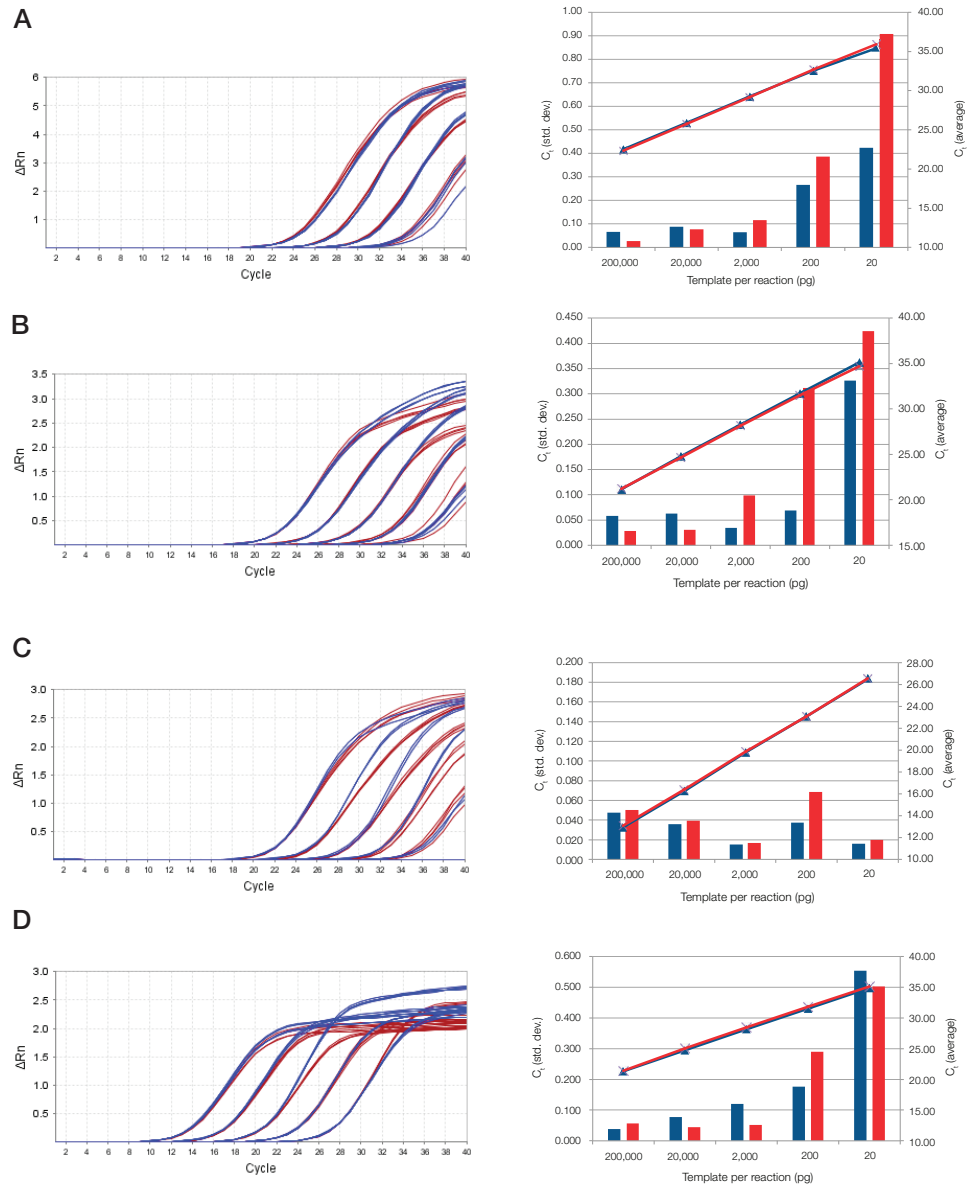


Figure 2. Comparison of singleplex and multiplex gene expression assays. (A) EGFR assay, FAM dye; (B) BRCA1 assay, VIC dye; (C) ESR1 assay, JUN dye; (D) RNase P assay, ABY dye. Amplification was performed on the QuantStudio 7 Real-Time PCR System using TaqMan Multiplex Master Mix. The figure shows amplification plots (left) and linear curves (right) for 4 assays amplified in singleplex (blue) and 4-plex reactions (red) in a dilution series from 20,000 pg to 2 pg of reference colon cDNA per 10 µL reaction. Average C_t value (lines) and average standard deviation (bars) for the dilution series are represented in their respective graphs and show the concordance between singleplex and 4-plex reactions. PCR efficiencies are: 96.09% for EGFR singleplex and 96.39% for EGFR 4-plex; 93.56% for BRCA1 singleplex and 94.93% for BRCA1 4-plex; 97.13% for ESR1 singleplex and 95.81% for ESR1 4-plex; 96.91% for RNase P singleplex and 98.1% for RNase P 4-plex.

Improved probe performance

Introduction of ABY and JUN reporter dyes and Mustang Purple passive reference dye allows for optimal 4-color multiplex assays when used with our FAM and VIC reporter dyes. Please note that ABY and JUN reporter dyes are available only with QSY quencher, while FAM and VIC dyes are available with either MGB or QSY quencher. A comparison with a set of dyes from another supplier shows that our combination of dyes provides an earlier C_t for the majority of assays (Figure 3).

Optimized multiplex master mix

In multiplex PCR, it's important to have a robust master mix that allows for amplification of each target in a highly competitive environment. Our new master mix composition was developed to provide optimal multiplex performance for each target in the reaction. A comparison of our master mix and a master mix from another supplier in a 4-plex reaction shows an earlier C_t for 3 of the targets amplified with our new master mix and a lower standard deviation for most of the dilution points, demonstrating the excellent performance of our solution (Figure 4).

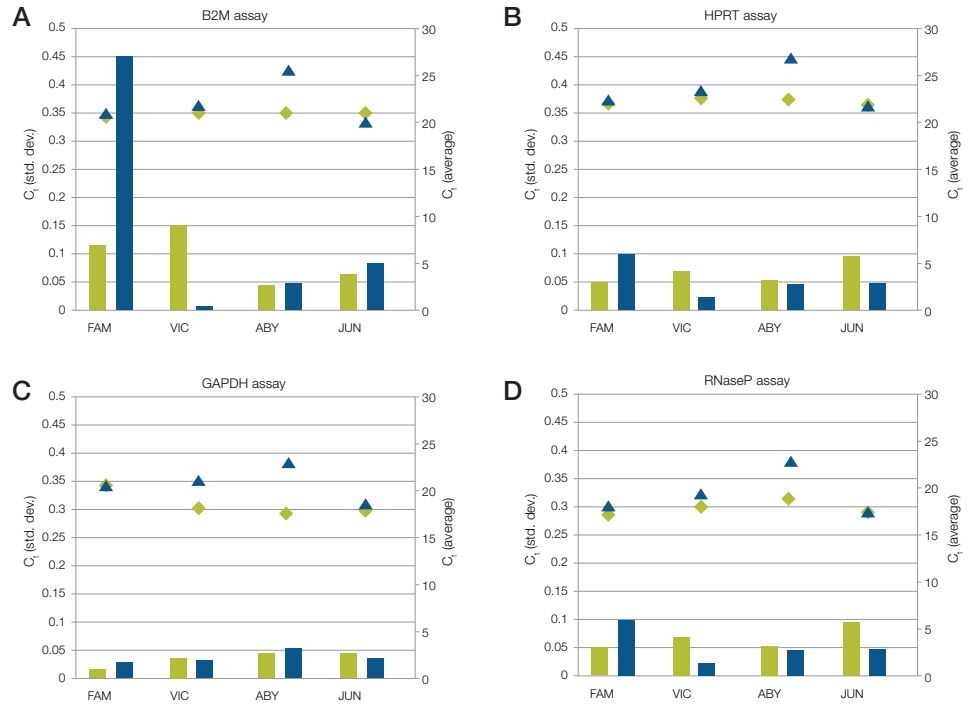


Figure 3. Comparison of our new dye combination with a dye combination from another supplier. Probes for (A) B2M, (B) HPRT, (C) GAPDH, and (D) RNase P gene expression assays were synthesized with FAM, VIC, ABY, and JUN dyes with QSY quencher (green bars and diamonds) and with another commercially available dye combination (blue bars and triangles). All possible gene-dye combinations were tested. Reactions were prepared with TaqMan Multiplex Master Mix using 900 nM of primer, 250 nM of probe, and 10 ng of cDNA. Amplification was performed on the QuantStudio 7 Real-Time PCR System using TaqMan Multiplex Master Mix. Bars represent average standard deviation. Triangles and diamonds represent average C_t values.

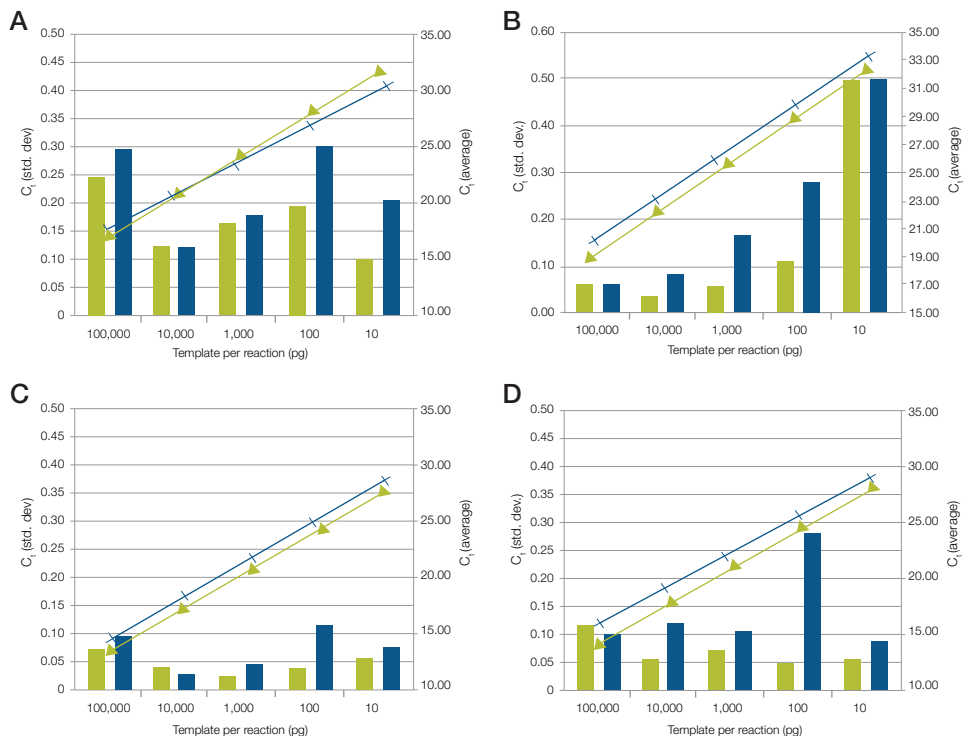


Figure 4. Comparison of TaqMan Multiplex Master Mix with another commercially available master mix. (A) B2M assay, FAM dye; (B) RNase P assay, VIC dye; (C) GAPDH assay, ABY dye; (D) HPRT assay, JUN dye. All assays used QSY quencher. The graph shows average standard deviation (bars) and average C_t values (cross and triangle) for 4-plex reactions using a dilution series from 100 ng to 10 pg of cDNA per 10 μ L reaction. All amplifications were performed on the ViiA 7 Real-Time PCR System using the cycling conditions recommended for each master mix. Green represents TaqMan Multiplex Master Mix, and blue represents 4-plex reactions with another commercially available master mix.

Optimized to minimize time-to-results

Developing a multiplex PCR assay requires time to correctly design the assay and optimize the reaction. Using our complete solution, for which all components were developed to work together, helps increase your chances of success and limits your

development time. A new multiplex PCR user guide was developed to guide you through the development and optimization process [1], and our custom services will allow you to delegate assay design to our experienced team to minimize your efforts.

References

1. Multiplex PCR User Guide. Available at thermofisher.com/multiplexqpcr
2. TaqMan multiplex qPCR: Accurate, sensitive, and as efficient as traditional singleplex qPCR. Application note available at lifetechnologies.com/multiplexqpcr

Ordering information

Product	Cat. No.
TaqMan QSY probes	
TaqMan QSY Probe, 6,000 pmol	4482777
TaqMan QSY Probe, 20,000 pmol	4482778
TaqMan QSY Probe, 50,000 pmol	4482779
Control kits	
TaqMan GAPDH Assay, JUN-QSY 20X	4485712
TaqMan GAPDH Assay, JUN-QSY PL 20X	4485713
TaqMan RNaseP Assay, ABY-QSY 20X	4485714
TaqMan RNaseP Assay, ABY-QSY PL 20X	4485715
Multiplex master mixes	
TaqMan Multiplex Master Mix, 1 mL	4461881
TaqMan Multiplex Master Mix, 5 mL	4461882
TaqMan Multiplex Master Mix, 50 mL	4486295

Other formats are available at lifetechnologies.com/multiplexqpcr

Calibration plates

96-Well Calibration Plate, Mustang Purple dye	4461599
96-Well Calibration Plate, JUN dye	A24737
96-Well Calibration Plate, ABY dye	A24738

Calibration plates are also available for 96-well Fast and 384-well plate formats.

Visit thermofisher.com/multiplexqpcr for more information.

Find out more at thermofisher.com/multiplexqpcr

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Spectral Calibration Plates with Mustang Purple® Dye for Multiplexing

Pub. Part no. 100023398 Rev. A Rev. Date January 2014

96-well and 384-well plates

Part Number	Part	Storage Conditions
4461599	96-Well Spectral Calibration Plate with Mustang Purple® Dye	Store at -15°C to -25°C
4457328	Fast 96-Well Spectral Calibration Plate with Mustang Purple® Dye	
4457334	384-Well Spectral Calibration Plate with Mustang Purple® Dye	

Note: For safety and biohazard guidelines, refer to the “Safety” section in the appropriate user guide for your instrument. For every chemical, read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Description

The Spectral Calibration Plates with Mustang Purple® Dye for Multiplexing are used for spectral calibration of Applied Biosystems® Real-Time PCR instruments. Perform calibration during installation and as part of routine instrument maintenance.

For information on instrument setup, the calibration process, and data analysis, refer to the appropriate user guide for your instrument.

For more information, visit our web site: <http://www.lifetechnologies.com>



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www.lifetechnologies.com



Safety Data Sheet

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
Classification according to Regulation (EC) No. 1272/2008 [CLP]

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product code 10977035
Product name DNASE/RNASE-FREE DISTILLED WATER

Chemical Name Not Applicable
REACH registration number No registration number is given yet for this substance / substances in this mixture since the annual import quantity is less than one tonnage per annum or the transition period for its registration according to Article 23 of REACH has not yet expired.

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses For research use only
Use Description Code SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen), PROC15 - Use as laboratory reagent, PC21 - Laboratory chemicals, SU24 - Scientific research and development
Uses advised against Not for consumer use.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

LIFE TECHNOLOGIES EUROPE BV
KWARTSWEG 2
2665 NN BLEISWIJK
NETHERLANDS
31-(0)180 392 400
Email: MSDS@lifetech.com

Life Technologies Limited
3 Fountain Drive
Inchinnan Business Park
Paisley
PA4 9RF, UK
+44 (0)141 814 6100

24 hour Emergency Response for Hazardous Materials Within the USA + Canada: 1-800-424-9300 and
[or Dangerous Goods] Incident. Spill, Leak, Fire, 1-703-527-3887
Exposure, or Accident. Call CHEMTREC Outside the USA + Canada: 1-703-741-5970

Country Specific Emergency Number (if available):

CHEMTREC Ireland (Dublin) +(353)-19014670 (Greeting Language: English and Irish)
CHEMTREC UK (London) +(44)-870-8200418 (Greeting Language: English)

Revision date 28-Oct-2019
Product code 10977035

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Product name DNASE/RNASE-FREE DISTILLED WATER

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Physical hazards

Not Hazardous

Health hazards

Not Hazardous

Environmental hazards

Not Hazardous

Additional information

Not Applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms

None

Signal Word

None

Hazard Statements

Not Applicable

EU Specific Hazard Statements

Not Applicable

Precautionary Statements

Prevention

Not Applicable

Response

Not Applicable

Storage

Not Applicable

Disposal

Not Applicable

Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB

SECTION 3: Composition/information on ingredients

The product contains no substances which at their given concentration, are considered to be hazardous to health. We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

Skin contact	Rinse skin with water. Immediate medical attention is not required.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.
Inhalation	Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed

Not Applicable

Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Foam. Dry chemical.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture

Not known

Protective equipment and precautions for firefighters

Standard procedure for chemical fires.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Always wear recommended Personal Protective Equipment
Use personal protection equipment
See section 8 for more information

Environmental precautions

No special environmental precautions required.

Methods and material for containment and cleaning up

Soak up with inert absorbent material.

Reference to other sections

See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Specific end use(s)

For research use only.

Control parameters

Exposure Limits Contains no substances with occupational exposure limit values.

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protection equipment

Respiratory protection In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

Hand protection Wear suitable gloves Glove material: Compatible chemical-resistant gloves.

Eye protection Tight sealing safety goggles.

Skin and Body Protection Wear suitable protective clothing.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No special environmental precautions required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	liquid	
Odour	No data	
Odour Threshold	No data	
Molecular Weight	No data	
pH	6-8	
Melting point / melting range	°C No data	°F No data
Boiling point / boiling range	°C No data	°F No data
Flash point	°C No data	°F No data
Autoignition Temperature	°C No data	°F No data
Decomposition temperature	°C No data	°F No data
Evaporation rate	No data	
Flammability (solid, gas)	No data	
Upper explosion limit	No data	
Lower explosion limit	No data	
Vapour Pressure	No data	
Vapour density	No data	
Relative density	No data	
Specific gravity	No data	
Solubility	No data	
Partition coefficient: n-octanol/water	No data	
Viscosity	No data	
Explosive properties	No data	
Oxidising properties	No data	

Other information

No data.

SECTION 10: Stability and reactivity

Reactivity	None known.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Hazardous reaction has not been reported.
Conditions to avoid	No information available.
Incompatible materials	No dangerous reaction known under conditions of normal use.
Hazardous decomposition products	No data available.

SECTION 11: Toxicological information

Information on toxicological effects

There is no evidence available indicating acute toxicity.

Principal Routes of Exposure

Skin corrosion/irritation Data are conclusive but insufficient for classification

Serious eye damage/irritation Data are conclusive but insufficient for classification

Respiratory or skin sensitisation Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT) – single exposure Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT) – repeated exposure Data are conclusive but insufficient for classification

Carcinogenicity Data are conclusive but insufficient for classification

Germ cell mutagenicity Data are conclusive but insufficient for classification

Reproductive Toxicity Data are conclusive but insufficient for classification

Aspiration Hazard Data are conclusive but insufficient for classification

SECTION 12: Ecological information

Ecotoxicity

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other adverse effects

No information available.

SECTION 13: Disposal considerations

Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

UN number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Environmental hazards

Not Applicable

Special precautions for user

Not Applicable

Transport in bulk according to Annex II of MARPOL and the IBC Code

Not Applicable.

SECTION 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Substances of Very High Concern

None.

Substance subject to authorisation per REACH Annex XIV

None

Restricted substances under EC 1907/2006, Annex XVII

None.

Substances listed under Annex I of Regulation (EC) No 689/2008

None.

Restricted substances under Annex V of Regulation (EC) No 689/2008

None.

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Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

None.

German Water hazard classes (Wassergefährdungsklassen)

Not classified.

Other International Inventories

No information available

Chemical safety assessment

No Chemical safety assessment has been carried out.

SECTION 16: Other information

Reason for revision	Update according to Commission Regulation (EU) No 830/2015
Revision number	3
Revision date	28-Oct-2019

References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Not classified

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

Distilled water
DNase, RNase Free

Lot Number: 2521463
Item Number: 10977
Expiration Date: 2024-05
Storage Temp: 15 to 30C

Grade: Molecular Biology

For research use only. Not for use in diagnostic procedures.
Sterile filtered (0.1 um)

TEST	TEST ID	SPECIFICATION	RESULT	UNITS
Deoxyribonuclease	DNARNA0002	None Detected	None Detected	
Protease	DNARNA0003	None Detected	None Detected	
Ribonuclease Assay	DNARNA0001	None Detected	None Detected	

Read SDS



Quality Systems Department

Date: 17-Jun-2022

References

- DNARNA0002: Thermo Fisher Scientific Specifications.
- DNARNA0003: Thermo Fisher Scientific Specifications.
- DNARNA0001: Thermo Fisher Scientific Specifications.

PRODUCT INFORMATION

**10X *Taq* Buffer
with $(\text{NH}_4)_2\text{SO}_4$**

#B33 4 x 1.25 mL

Lot: ____ **Expiry Date:** _____

Store at -20°C

Description

10X *Taq* Buffer with $(\text{NH}_4)_2\text{SO}_4$ is used in PCR with *Taq* DNA Polymerase. Does not contain MgCl_2 .

High primer specificity is observed in this buffer within a broad range of magnesium concentrations at a variety of annealing temperatures.

10X Buffer Composition

750 mM Tris-HCl (pH 8.8 at 25°C),
200 mM $(\text{NH}_4)_2\text{SO}_4$,
0.1% (v/v) Tween 20.

CERTIFICATE OF ANALYSIS

Tested for the absence of endo-, exodeoxyribonucleases, ribonucleases and functionally tested in amplification of 956 bp DNA fragment of a single-copy gene of human genomic DNA.

Quality authorized by:

 Jurgita Zilinskiene

PRODUCT USE LIMITATION

This product is developed, designed and sold exclusively *for research purposes and in vitro use only*. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Please refer to www.thermoscientific.com/onebio for Material Safety Data Sheet of the product.

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CERTIFICATE OF ANALYSIS

B33 **10X Taq Buffer with (NH₄)₂SO₄**

Packaging Lot: 91278450

Expiry Date: 31.03.2026 (DD.MM.YYYY)

Storage: at -20±5°C

Filling lots for components in package:

Lot	Quantity	Description
91238906	4 x 1.25 mL	10X Taq Buffer with (NH ₄) ₂ SO ₄

QUALITY CONTROL

Parameter	Method	Requirement	Result
pH	Ph. Eur.2.2.3	8.80 ± 0.04	Conforms
Endodeoxyribonucleases (nicking activity)	Incubation of supercoiled plasmid DNA with buffer.	Not detectable	Conforms
Ribonucleases	Incubation of RNA transcript with buffer.	Not detectable	Conforms
Endo-, exodeoxyribonucleases and phosphatases	Incubation of single stranded and double stranded radiolabeled oligonucleotides with buffer.	Not detectable	Conforms
Functional testing	PCR amplification of 956 bp single copy gene from human genomic DNA and analysis on agarose gel.	Reaction produces specific PCR product	Conforms

ISO CERTIFICATION

Manufactured in compliance with ISO 9001 and ISO 13485 certified quality management system.

Quality authorized by QC: **J. Žilinskienė**




Manufactured for Thermo Fisher Scientific