

# ExaccType ESR1 dPCR Kit

## Handbook

### RUO

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

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### LOT

Batch code



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# Notice of Change

Please note the following adaptations compared to the previous handbook version:

| Document code | Changes         | Date       |
|---------------|-----------------|------------|
| ESR1HB01v1en  | Initial version | 22.10.2026 |

For any further questions, please contact us  
at +49 351 8838 400 or [support@biotype.de](mailto:support@biotype.de)

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## Intended Use

The ExaccType ESR1 dPCR Kit is a Research Use Only (RUO) digital polymerase chain reaction (dPCR) assay for the detection of *ESR1* mutations in deoxyribonucleic acid (DNA).

**The ExaccType ESR1 dPCR Kit is a product used for basic laboratory research only. Not to be used in diagnostic procedures.**

## Product description

The ExaccType ESR1 dPCR Kit enables the detection of 11 *ESR1* mutations in a multiplexed dPCR setup. The kit employs dPCR with dye-linked oligonucleotides (that is, probes labelled with a 5' reporter dye and a downstream, 3' dye-free quencher) to detect sequence amplification. During PCR, forward and reverse primers hybridise to the target DNA sequence for amplification, while the probe binds to the target sequence located between the primers. Both mutation-specific primers and probes are included in the kit. To selectively detect *ESR1* mutations in high wild-type (WT) background, primer and probe (PP) mixes include blocking oligonucleotides specific to WT target sequence, to prevent elongation.

The kit is for use with dPCR, which involves the partitioning one reaction into numerous separate reactions, each independently undergoing PCR amplification. After cycling, the PCR reactions are checked for fluorescence and reactions scored as “1” or “0” for amplification. The partitioning of the sample allows the estimation of the number of starting molecules following a Poisson distribution, which enables the possibility of multiple target molecules being in a single partition. Using Poisson's law, the number of target molecules within the sample can be accurately determined. By combining dye linked technology with dPCR, allelic frequencies down to 0.1% Mutant Allele Frequency (MAF) can be accurately detected.

The ExaccType ESR1 dPCR Kit consists of four PP mixes, and Positive and Negative Controls (PC and NTC) which monitor the assay set up and reagent performance. A reference target (detecting WT *ESR1* sequence) is detected by each PP mix, which acts as an internal control and confirms adequate sample is added to the reaction.

The targets detected by the ExaccType ESR1 dPCR Kit are listed in Table 1.

The kit has been designed for use with any commercial dPCR master mix or platform capable of detecting FAM™, HEX™, ROX and Cy5® fluorophores, and is intended for use with DNA samples, such as cell-free DNA (cfDNA) or formalin-fixed, paraffin-embedded (FFPE) gDNA. For best results, use a cfDNA-specific kit for cell-free DNA or an FFPE-specific kit for gDNA extraction and use samples without dilution. As a guideline, the recommended DNA input per reaction is between 10–30 ng.

**Table 1: Targets detected by the ExaccType ESR1 dPCR Kit. L536 mutations are not differentiated.**

| PP Mix | Target        | Nucleic Acid Change         | COSMIC ID   |
|--------|---------------|-----------------------------|-------------|
| 1      | D538G         | c.1613A>G                   | COSM94250   |
|        | S463P         | c.1387T>C                   | COSM4771561 |
|        | Reference     | N/A                         | N/A         |
| 2      | Y537C         | c.1610A>G                   | COSM1074637 |
|        | Y537S         | c.1610A>C                   | COSM1074639 |
|        | L536X (L536P) | c.1607T>C                   | COSM6906109 |
|        | L536X (L536R) | c.1607T>G                   | COSM4774826 |
|        | Reference     | N/A                         | N/A         |
| 3      | L536X (L536H) | c.1607T>A                   | COSM6843697 |
|        | L536X (L536Q) | c.1607_1608delinsAG (TC>AG) | COSM4766050 |
|        | Y537N         | c.1609T>A                   | COSM1074635 |
|        | Reference     | N/A                         | N/A         |
| 4      | E380Q         | c.1138G>C                   | COSM3829320 |
|        | P535H         | c.1604C>A                   | COSM4944018 |
|        | Reference     | N/A                         | N/A         |

## Materials provided

### Kit Contents

#### ExaccType ESR1 dPCR Kit

| Component                 | Colour | Volume    |
|---------------------------|--------|-----------|
| Primer Probe Mix 1        | Clear  | 1x 252 µL |
| Primer Probe Mix 2        | Clear  | 1x 252 µL |
| Primer Probe Mix 3        | Clear  | 1x 252 µL |
| Primer Probe Mix 4        | Clear  | 1x 252 µL |
| Positive Control (PC)     | Black  | 1x 210 µL |
| No Template Control (NTC) | White  | 1x 210 µL |

## Material and devices required but not provided

### Reagents, kits and consumables

- Sterile pipette tips with filters
- Sterile 1.5 mL microcentrifuge tubes
- Digital PCR plates/seals compatible with a dPCR instrument
- Digital PCR master mix suitable for use with a dPCR instrument and dye-linked oligonucleotide chemistry (e.g., QIAcuity® probe mix)

### General laboratory equipment

- Digital PCR instrument (detection channels: FAM™, HEX™, ROX and Cy5®). Refer to the equipment user guide for compatibility. Alternative channels with equivalent emission spectra can be used if required and validated by user
- Adjustable volume pipettes
- Centrifuge (for spinning down microcentrifuge tubes)
- Vortex
- Cool block or ice (optional)

## Reagent storage and handling

- If the kit is not frozen on arrival, the outer packaging is damaged or if any component of the kit is not present, please contact BIOTYPE GmbH
- Store kit immediately on receipt at  $-30^{\circ}\text{C}$  to  $-15^{\circ}\text{C}$  in a constant-temperature freezer and protected from light
- **When stored under the recommended storage conditions in the original packaging, the kit is stable for 15 months from the date of manufacture**
- Repeated thawing and freezing should be avoided. Do not exceed 9 freeze-thaw cycles
- To ensure optimal activity and performance, primer probe mixes must be protected from light to avoid photo bleaching
- Do not use expired or incorrectly stored components

## Warnings and precautions

This product is for research use only. Not intended for medical purpose or objective.

## General Precautions

- The test is for use with fragmented DNA, for example, cfDNA (extracted from plasma) or gDNA (extracted from FFPE tissue).
- For use with non-fragmented DNA, dPCR template requires fragmentation to ensure separation across partitions. High molecular weight DNA should be sonicated or digested before use.
- Discard any samples or waste according to local safety procedures
- Reagents in the ExaccType ESR1 dPCR Kit have been diluted optimally. Do not dilute reagents further.
- The kit has been developed using high partition numbers (QIAGEN QIAcuity® Nanoplate 26K (24-well)). High-sensitivity or high-partition plates are suggested to ensure detection of low mutant copy numbers.
- Take extreme care to prevent contamination of the kit components with the Positive Control reagent. Cap the tubes promptly after addition of each reagent.
- Take extreme care to prevent cross-contamination between samples. Cap the tubes promptly after addition of each sample.
- Thoroughly decontaminate work area before setting up

## Safety Information

- When working with chemicals, always wear suitable personal protective equipment (lab coat, disposable gloves, and protective eyewear). For more information, please consult the appropriate Non-Hazardous Product Statement (NHS) or safety data sheets (SDS).

## Procedure

### NOTE



When using an instrument other than the QIAcuity® Digital PCR System, instrument-specific settings and data analysis parameters may differ. For guidance on the appropriate setup and analysis settings for your platform, please contact [support@biotype.de](mailto:support@biotype.de).

## Reaction Set Up

The ExaccType ESR1 dPCR Kit detects a total of eleven *ESR1* mutations across four reactions, using dPCR. We recommend including the controls provided with the kit (negative control and positive control) in every run.

### NOTE



An appropriate instrument and compatible dPCR enzyme mix suitable for use with probe-based chemistry is required for use.

Template DNA and all reaction components should be thawed before use. It is important to mix the solutions completely before use to avoid localised differences in concentration.

### NOTE



The PP mixes in the ExaccType ESR1 dPCR Kit are supplied at 4X concentration. Using an appropriate dPCR enzyme mix and DNA sample, prepare reaction mixes as per manufacture's recommendations, ensuring the ESR1 dPCR is used at 1X concentration.

If using the QIAcuity® Digital PCR System (QIAGEN), follow the reaction volumes described in Table 2 (reaction volumes include overage for pipetting). For use with other dPCR systems, refer to the manufacturer's handbook for reaction mix set up instructions.

**Table 2: Reaction set up for N= 1 sample including pipetting overage using the QIAcuity® Digital PCR System.**

| Master Mix ID | PP Mix ID | ExaccType ESR1 dPCR Kit PP mix (μL) | QIAcuity Probe PCR Kit (μL) | Sample/PC/NTC (up to 11 μL) | Nuclease Free Water (μL)* | Total Master Mix volume (μL) |
|---------------|-----------|-------------------------------------|-----------------------------|-----------------------------|---------------------------|------------------------------|
| 1             | Mix 1     | 11                                  | 11                          | 11                          | 11                        | 44                           |
| 2             | Mix 2     | 11                                  | 11                          | 11                          | 11                        | 44                           |
| 3             | Mix 3     | 11                                  | 11                          | 11                          | 11                        | 44                           |
| 4             | Mix 4     | 11                                  | 11                          | 11                          | 11                        | 44                           |

*\*Variable to account for sample volume - the reaction should be made up to a total volume of 44 μL (44 μL is required to provide pipetting overage).*

## Plate Set Up

Below instructions refer to a set up using the QIAcuity® Digital PCR System. For use with other dPCR systems, refer to the manufacturer's handbook for plate set up instructions.

- Pipette 40 μL of each master mix into each well. Reverse pipette to ensure no bubbles are loaded.
- To reduce the risk of cross contamination, it is recommended to position the negative and positive controls away from the DNA samples or on one side of the plate. An example of set-up in a 24-well dPCR plate is shown in Figure 1, and colour coded for each of the four mixes, 1–4.
- Seal the plate using a dPCR plate seal and sealing tool.
- Place the plate/tubes into the dPCR instrument following the manufacturer's instructions.

|   | 1                 | 2                 | 3                 |
|---|-------------------|-------------------|-------------------|
| A | Sample 1<br>Mix 1 | Sample 2<br>Mix 1 | Sample 3<br>Mix 1 |
| B | Sample 1<br>Mix 2 | Sample 2<br>Mix 2 | Sample 3<br>Mix 2 |
| C | Sample 1<br>Mix 3 | Sample 2<br>Mix 3 | Sample 3<br>Mix 3 |
| D | Sample 1<br>Mix 4 | Sample 2<br>Mix 4 | Sample 3<br>Mix 4 |
| E | Sample 4<br>Mix 1 | PC<br>Mix 1       | NTC<br>Mix 1      |
| F | Sample 4<br>Mix 2 | PC<br>Mix 2       | NTC<br>Mix 2      |
| G | Sample 4<br>Mix 3 | PC<br>Mix 3       | NTC<br>Mix 3      |
| H | Sample 4<br>Mix 4 | PC<br>Mix 4       | NTC<br>Mix 4      |

**Figure 1:** Recommended Mix and Sample layouts for a 24 well dPCR plate. PC = positive control; NTC = no template control.

## Run Method

Select appropriate run methods following manufacturer's instructions.

Cycling parameters recommended for use with the QIAcuity® Digital PCR System and ExaccType ESR1 dPCR Kit are outlined in Table 3.

**Table 3: Recommended cycling parameters for the ExaccType ESR1 dPCR Kit with the QIAcuity® Digital PCR System.**

| Step              | Step Number | Step Name                   | Temperature | Time  | Cycles |
|-------------------|-------------|-----------------------------|-------------|-------|--------|
| <b>Hold Stage</b> | 1           | PCR Initial Heat Activation | 95°C        | 2 min | 1      |
| <b>PCR Stage</b>  | 1           | Denaturation                | 95°C        | 15 s  | 40     |
|                   | 2           | Annealing Extension         | 60°C        | 30 s  |        |

Recommended imaging parameters for the QIAcuity® Digital PCR System are shown in Table 4. For other instrumentation users should verify exposure duration. If the required channel is not available in instrument under use, similar or equivalent channels can be verified for use by the user.

**Table 4: Recommended imaging parameters for the ExaccType ESR1 dPCR Kit.**

| Channel | Emission (nm) | Target Detected                          | Exposure Duration (ms) | Gain |
|---------|---------------|------------------------------------------|------------------------|------|
| Green   | 518–548       | D538G, Y537C, Y537N, E380Q               | 500                    | 6    |
| Yellow  | 550–564       | S463P, L536P, L536R, L536H, L536Q, P535H | 500                    | 6    |
| Red     | 580–606       | Y537S                                    | 400                    | 6    |
| Crimson | 611–653       | Reference                                | 300                    | 4    |

## Threshold Setting

Users are recommended to empirically determine the suitability of thresholds for the dPCR instrument under use. The threshold should be set above any background WT positive partitions. Users are recommended to set the thresholds by testing samples positive and negative for selected mutations. For use with the QIAcuity® Digital PCR System we recommend the thresholds provided in Table 5.

**Table 5: Target data acquisition and analysis settings for the ExaccType ESR1 dPCR Kit.**

| Reaction Mix | Target        | Dye  | Emission (nm) | Fluorescence Intensity Threshold (QIAcuity Digital PCR System) |
|--------------|---------------|------|---------------|----------------------------------------------------------------|
| 1            | D538G         | FAM™ | 520           | 75                                                             |
|              | S463P         | HEX™ | 555           | 100                                                            |
|              | Reference     | Cy5® | 670           | 50                                                             |
| 2            | Y537C         | FAM™ | 520           | 50                                                             |
|              | Y537S         | ROX  | 604           | 35                                                             |
|              | L536X (L536P) | HEX™ | 555           | 80                                                             |
|              | L536X (L536R) | HEX™ | 555           | 80                                                             |
|              | Reference     | Cy5® | 670           | 50                                                             |
| 3            | L536X (L536H) | HEX™ | 555           | 115                                                            |
|              | L536X (L536Q) | HEX™ | 555           | 115                                                            |
|              | Y537N         | FAM™ | 520           | 45                                                             |
|              | Reference     | Cy5® | 670           | 50                                                             |
| 4            | E380Q         | FAM™ | 520           | 60                                                             |
|              | P535H         | HEX™ | 555           | 80                                                             |
|              | Reference     | Cy5® | 670           | 50                                                             |

## Run Analysis

Once the run is completed, export the results file. Refer to the selected dPCR platform user manual for analysis and export instructions.

### Recommended Run Validity Criteria

NTC wells should be examined to detect potential contamination. The run is deemed valid when the results for the negative controls for all targets don't produce positive partitions. Tolerance to positive partitions should be determined for the instrument. For the QIAcuity® Digital PCR System the allowable range is 0–2 positive partitions.

The ExaccType ESR1 dPCR Kit PC is a mixture of synthetic DNA consisting of all ESR1 and reference targets. The PC verifies the reaction integrity and may serve as a guide for data thresholding on dPCR instrumentation. For run validity on the QIAcuity® Digital PCR System > 10 copies per target should be observed for the PC targets.

## Results Interpretation

Positive partitions should be used to guide the mutation status (positive or negative). Although no consensus value exists, a reaction is normally considered positive when the number of positive partitions exceeds 21. If the positive partition number is less than the instrument LoD, the mutation status is negative. For the QIAcuity® Digital PCR System, there should be  $\geq 3$  partitions for positive calling.

If a positive result is reported for L536X, the ESR1 mutation present in the sample is either L536R, L536P, L536H or L536Q.

## Performance Evaluation

### Analytical sensitivity

#### Limit of Blank

The limit of blank (LoB) was determined by testing mutation-negative samples contrived with WT DNA fragments.

Each sample was tested over two runs using two kit lots, one instrument and across multiple days, yielding a total of twelve replicates per target (for E380Q, n=6 samples were tested). For each target the overall rate of correct sample interpretation was 100% (Table 6).

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<sup>1</sup> QIAGEN, *Digital PCR Guide: Setup and Troubleshooting* (QIAGEN)  
<https://www.qiagen.com/us/applications/digital-pcr/beginners/dpcr-guide/setup-and-troubleshooting>  
accessed 28 May 2025.

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**Table 6: Detection rates calculated for mutation-negative samples contrived with WT DNA in the limit of blank study. Relative fluorescence units (RFU) thresholds applied for this study are shown.**

| Mix | Target      | Mutation Negative*<br>(n=12)<br>Detection Rate | Fluorescence<br>Intensity (RFU)<br>Threshold |
|-----|-------------|------------------------------------------------|----------------------------------------------|
| 1   | D538G       | 0                                              | 75                                           |
|     | S463P       | 0                                              | 100                                          |
| 2   | L536X (P/R) | 0                                              | 80                                           |
|     | Y537S       | 0                                              | 35                                           |
|     | Y537C       | 0                                              | 50                                           |
| 3   | Y537N       | 0                                              | 45                                           |
|     | L536X (H/Q) | 0                                              | 115                                          |
| 4   | E380Q       | 0                                              | 60                                           |
|     | P535H       | 0                                              | 80                                           |

\*Sample contrived with 10,000 and 20,000 WT DNA copies. E380Q tested with 10,000 WT copies only.

### Limit of Detection

The limit of detection (LoD) was established for each target using samples contrived with WT and mutant DNA at varying mutant allele frequency (MAF), total copy numbers can be found in Table 7. A total of 6 replicates were generated per target, across one instrument and two kit lots. The LoD was defined as the highest mutant allele frequency with 100% correct calls. The calculated LoD for each target is summarised in Table 7.

**Table 7: LoD for the ExaccType ESR1 dPCR Kit in % MAF and DNA copies. The mutant DNA copies at LoD and WT DNA copies at LoD describe the DNA copies of each fragment in the contrived samples. Relative fluorescence units (RFU) thresholds applied for this study are shown.**

| Mix | Target    | LoD %MAF (n=6) | Mutant DNA Copies at LoD | Total DNA copies | Fluorescence Intensity (RFU) Threshold |
|-----|-----------|----------------|--------------------------|------------------|----------------------------------------|
| 1   | D538G     | 0.10%          | 20                       | 20,000           | 75                                     |
|     | S463P     | 0.10%          | 10                       | 10,000           | 100                                    |
| 2   | L536X (R) | 0.10%          | 10                       | 10,000           | 80                                     |
|     | L536X (P) | 0.10%          | 10                       | 10,000           | 80                                     |
|     | Y537S     | 0.10%          | 10                       | 10,000           | 35                                     |
|     | Y537C     | 0.10%          | 10                       | 10,000           | 50                                     |
| 3   | Y537N     | 0.10%          | 10                       | 10,000           | 45                                     |
|     | L536X (H) | 0.10%          | 10                       | 10,000           | 115                                    |
|     | L536X (Q) | 0.10%          | 10                       | 10,000           | 115                                    |
| 4   | E380Q     | 0.10%          | 10                       | 10,000           | 60                                     |
|     | P535H     | 0.10%          | 10                       | 10,000           | 80                                     |

### Performance with External Control Material

ExaccType ESR1 dPCR Kit was tested with Seraseq® ctDNA ESR1 reference set (Seracare, Cat. No. 0710-3564). The samples were serially diluted from 1% to 0.05% MAF and tested at 10 ng and 30 ng total DNA input per reaction. The results for each target are summarised in Table 8 and Table 9. Mutations were detected as low as 0.05% MAF.

**Table 8: Number of positive calls (out of three replicates) for each mutation at each tested MAF% (30 ng total DNA input).**

| Seraseq ctDNA ESR1 Reference Set at 30 ng input (MAF %) |       |       |       |       |       |       |
|---------------------------------------------------------|-------|-------|-------|-------|-------|-------|
| Mutation                                                | 1.00% | 0.50% | 0.20% | 0.10% | 0.05% | 0.00% |
| E380Q                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 2/3   | 0/1   |
| S463P                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 2/3   | 0/1   |
| L536H/Q                                                 | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| L536P/R                                                 | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| Y537S                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| Y537N                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| Y537C                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| D538G                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |

**Table 9: Number of positive calls (out of three replicates) for each mutation at each tested MAF% (10 ng total DNA input).**

| Seraseq ctDNA ESR1 Reference Set at 10 ng input (MAF %) |       |       |       |       |       |       |
|---------------------------------------------------------|-------|-------|-------|-------|-------|-------|
| Mutation                                                | 1.00% | 0.50% | 0.20% | 0.10% | 0.05% | 0.00% |
| E380Q                                                   | 1/1   | 3/3   | 2/3   | 2/3   | 0/3   | 0/1   |
| S463P                                                   | 1/1   | 3/3   | 3/3   | 1/3   | 0/3   | 0/1   |
| L536H/Q                                                 | 1/1   | 3/3   | 3/3   | 2/3   | 2/3   | 0/1   |
| L536P/R                                                 | 1/1   | 3/3   | 3/3   | 3/3   | 3/3   | 0/1   |
| Y537S                                                   | 1/1   | 3/3   | 3/3   | 3/3   | 2/3   | 0/1   |
| Y537N                                                   | 1/1   | 3/3   | 3/3   | 2/3   | 1/3   | 0/1   |
| Y537C                                                   | 1/1   | 3/3   | 3/3   | 1/3   | 3/3   | 0/1   |
| D538G                                                   | 1/1   | 3/3   | 3/3   | 1/3   | 0/3   | 0/1   |

## Specificity and Cross-Reactivity

*In silico* analysis was performed using ThermoSleuth™ (DNA Software) to scan oligonucleotide sequences against large genomic databases. ThermoSleuth™ assessed all thermodynamically stable hits to determine any possible mishybridisation sites and potential off target amplicons. All oligonucleotides were scanned against sequence databases for all human DNA and RNA sequences. When screening the multiplex mixes against the sequence databases, there were no potentially problematic non-target amplicons.

*In vitro* specificity and cross-reactivity were determined by assessing DNA fragments specific to each mutation with all the PP mixes. The fragments were prepared at 1,000 DNA copies per reaction and assessed in triplicate. Cross-reactivity was only found between the mutations located within the

L536 codon (Table 10), which are reported as L536X for any hits observed (targets labelled as L536X are not differentiated).

**Table 10: Specificity and cross-reactivity observed between the mutations in the ExaccType ESR1 dPCR Kit. Dark green denotes specificity, and light green denotes cross-reactivity.**

| Target | DNA fragment |            |            |             |             |             |             |            |            |            |            |
|--------|--------------|------------|------------|-------------|-------------|-------------|-------------|------------|------------|------------|------------|
|        | E380Q        | S463P      | P535H      | L536H       | L536P       | L536R       | L536Q       | Y537N      | Y537C      | Y537S      | D538G      |
| E380Q  | Dark Green   |            |            |             |             |             |             |            |            |            |            |
| S463P  |              | Dark Green |            |             |             |             |             |            |            |            |            |
| P535H  |              |            | Dark Green |             |             |             |             |            |            |            |            |
| L536H  |              |            |            | Dark Green  | Light Green | Light Green | Light Green |            |            |            |            |
| L536P  |              |            |            |             | Dark Green  |             |             |            |            |            |            |
| L536R  |              |            |            | Light Green | Light Green | Dark Green  |             |            |            |            |            |
| L536Q  |              |            |            | Light Green |             |             | Dark Green  |            |            |            |            |
| Y537N  |              |            |            |             |             |             |             | Dark Green |            |            |            |
| Y537C  |              |            |            |             |             |             |             |            | Dark Green |            |            |
| Y537S  |              |            |            |             |             |             |             |            |            | Dark Green |            |
| D538G  |              |            |            |             |             |             |             |            |            |            | Dark Green |

## Troubleshooting

For information on troubleshooting, please contact [support@biotype.de](mailto:support@biotype.de).

## Limitations of Use

Cross-reactivity occurs between mutations on the L536 codon. Four mutations within codon L536 can be detected (L536H, L536Q, L536R, L536P); however, individual calling is not possible.

## Technical Assistance



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## Ordering information

Direct your orders via email to [sales@biotype.de](mailto:sales@biotype.de).

| Product                 | Packaging size | Order number |
|-------------------------|----------------|--------------|
| ExaccType ESR1 dPCR Kit | Standard       | BT00090      |
|                         | Large          | BT00091      |

Visit the BIOTYPE website at <https://www.biotype.de/>.

## Trademarks and Disclaimers

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## Explanation of Symbols



Manufacturer



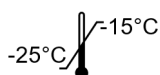
Batch code



Consult electronic user manual (eHB / eHandbook)



Use-by date



Temperature limit



Catalogue number

**RUO**

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



Keep away from sunlight



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Useful tips



Attention, be sure to follow this notice!

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