

## General Information

### Intended use:

**Calprotectin Turbilatex® Combo** is a latex turbidimetric assay **only for the quantitative detection of calprotectin in human stool samples** (not to be used for body fluid as blood, serum, plasma, urine, cerebrospinal fluid, oral fluid, synovial fluid or empyema fluid).

This assay is simple and widely applicable. This product is optimized for several automated analyser.

For professional *in vitro* diagnostic use only.

### Reagents:

#### Materials provided by CerTest Biotec:

| Reagents                         | Code                 |
|----------------------------------|----------------------|
| Turbidimetric reagents (R1 & R2) | TL-022CP01           |
|                                  | TL-022CP02           |
| <b>Auxiliary Reagents</b>        |                      |
| Calibration kit                  | TL-022CP70,          |
|                                  | TL-022CP71           |
|                                  | TL-022CP72           |
|                                  | TL-022CP73           |
|                                  | TL-022CP74           |
| TL-022CP75                       |                      |
| Controls kit                     | TL-022CP08           |
|                                  | TL-022CP09           |
| Sample dilutions vials           | MST-0019U/MST-0019UR |

#### Preparation of reagents: .

R1 and R2 are ready to use.

Calibrators are ready to use.

Controls are ready to use

#### Storage and stability:

Kit components must be stored at temperature indicated on the label. Do not freeze.

Reagents are stable up to the expiration date printed on the label, always considering that reagent containers must be properly closed to avoid any contamination, must be kept away from the sunlight and conserved at temperature indicated on the label of each reagent.

#### Specimen:

Collect enough quantity of human solid stool samples. These samples should be collected in clean and dry containers (no preservatives or transport media). The samples can be stored in the refrigerator (2-8°C) for 7 days prior to testing. If not immediately tested, freeze the stored samples at -20 °C maximum 6 months. In this case, the sample will be totally thawed and brought to room temperature (15-30°C) before

testing. Homogenize stool samples as thoroughly as possible prior to preparation.

Use **Universal Turbilatex® Sample Collection Vial** or **Universal Turbilatex® Sample Vial** for sample collections described the instructions for use.

#### Assay procedure

**Calprotectin Turbilatex® Combo** can be performed on every open chemistry analyser. Please follow the subsequent instructions in order to assure performance characteristics as describes in the instructions for use. This instruction has been validated by CerTest BIOTEC S.L Laboratories.

Additionally, please read the “Instructions for use” for instructions on operating and programming user defined test.

#### Application parameter set up:

Specific analyzers settings for **Calprotectin Turbilatex® Combo** must be programmed onto the analyzer, see below. For instructions, consult the Cobas c501, c502, c503 (Roche) analyzer manual and instructions for use provided with the kit.

#### Loading of reagents:

Load reagents according to the Cobas c501, c502, c503 (Roche) analyzer manual.

#### Calibration curve establishment:

A 6-points calibration curve can be established in Cobas c501, c502, c503 (Roche) analyzer. For instructions consult analyzer manual.

#### Calibration stability:

Calibrate the system at least once a month is extremely recommended. Recalibrate the system when reagent lot is change or when the controls are out of the assigned range given in the control label and CoA.

#### QC controls:

**Calprotectin Turbilatex® Combo** controls C1 and C2 must be assayed each day before running patient fecal sample extract to validate the calibration curve. The controls have assigned value ranges indicated on the label and certificate of analysis supplied. The control measurements must be within the indicated value range to obtain valid results for patient fecal extract. If the control values are out of range, follow next procedures: 1) Repeat QC control measurement, 2) Repeat calibration measurement.

#### Results:

The results are evaluated automatically by the analyzer and presented in µg hCp/g of stool.

### Performance characteristics (\*)

The following results have been obtained during the validation of Calprotectin Turbilatex® Combo on the Cobas c501, c502, c503 (Roche) analyzer.

#### Linearity:

Calprotectin Turbilatex® Combo using calibrator kit is linear in the calibration range of 36-1500 µg hCp/g of stool.



#### Measuring range:

Calprotectin Turbilatex® Combo assay measuring range is 20-3125 µg hCp/g of stool. Samples more concentrated than 1500 µg hCp/g of stool must be diluted for proper quantification by the user, using additional sample buffer.

#### Prozone effect:

Studies have been made up to a concentration of 25000 µg of hCp/g of stool and no false negative results have been observed. Studies using higher concentrations have not been carried out. Samples with concentrations up to 3125 µg of hCp/g can be measured without inhibitory prozone effect.

#### Detection limit:

**Limit of detection (LOD):** 7 µg hCp/g of stool. The lower limit of detection of Calprotectin Turbilatex® Combo was determined on 20 samples and 2 sample replicates as the mean value +2· SD.

**Limit of quantification (LOQ):** 20 µg hCp/g of stool. The lower limit of quantification is defined as the lowest actual amount of analysis that can be reliably detected; imprecision is < 20% as CV%.

#### Precision:

Calprotectin Turbilatex was tested with three different controls levels.

|             | Low<br>(50 µg/g) | Medium<br>(200 µg/g) | High<br>(750 µg/g) |
|-------------|------------------|----------------------|--------------------|
| N           | 20               | 20                   | 20                 |
| Mean (µg/g) | 51.7             | 208.1                | 765.8              |
| SD (µg/g)   | 2.6              | 9.2                  | 27.2               |
| CV (%)      | 5                | 4                    | 4                  |

### Method comparison

The following tables provide information on the summary of the evaluations that have been carried out on the product Calprotectin Turbilatex® Combo with a cut-off of 50 µg of hCp/g of stool:

| Calprotectin Turbilatex® vs Evaluation criteria |            |                         |
|---|------------|-------------------------|
|   | Mean Value | 95% confidence interval |
| Sensitivity                                     | 96.8%      | 92.7-99.0%              |
| Specificity                                     | 91.4%      | 86.7-94.8%              |
| PPV   | 89.3%      | 83.7-93.6%              |
| NPV   | 97.4%      | 94.1-99.2%              |
| LR+   | 11.24      | 7.22-17.49              |
| LR-   | 0.035      | 0.015-0.083             |

### Shipping damage

Please notify your distributor, if this product was received damaged.

### Symbols key

|                |                                  |     |                        |
|----------------|----------------------------------|-----|------------------------|
| IVD            | For in vitro diagnostic use only |     | Keep dry               |
| i              | Consult instructions for use     |     | Temperature limitation |
| REF            | Catalogue number                 | LOT | Lot number             |
|                | Use by                           |     | Manufacturer           |
| Σ <sub>n</sub> | Contains sufficient for <n> test | DIL | Sample diluent         |
|                | Keep out of the sunlight         |     |                        |

### Manufacturer

#### CERTEST BIOTEC

Pol. Industrial Río Gállego II, Calle J, Nº 1, 50840,  
San Mateo de Gállego, Zaragoza (SPAIN)  
www.certest.es

### NOTES

Please refer to the instructions for use for the detailed information about the test on the following:

**Synthesis; Principle; Precautions; Reagents; Specimen collection; Interpretation of results.**

(\*) Analytical performance data were obtained with the Biolis 24 i(Tokyo Boeki) analyser.

**Cobas c501, c502, c503, Roche/ Application parameters**

| <b>ASSAY PARAMETERS</b>       |  |
|-------------------------------|--|
| Std. No                       | 6  |
| R1                            | 135 µL                                     |
| Sample                        | 3,8 µL                                     |
| R2                            | 15 µL                                      |
| Others                        | Stirring=4                                 |
| Reaction mode                 | 2 Point End                                |
| Primary wavelength            | 480 nm                                     |
| Secondary wavelength          | 800 nm                                     |
| Direction                     | Increase                                   |
| Reagent blank lecture (cycle) | 12 cycles for c501/c502-8 cycles for c503  |
| Final lecture (cycle)         | 37 cycles for c501/c502-24 cycles for c503 |
| Reaction time                 | close to 10 min                            |
| Linear range                  | 36-1500 µg/g                               |
| <b>CALIBRATION</b>            |  |
| Calibration Method            | Spline                                     |
| Calibration set               | 5 calibrators + Blank                      |
| Blank                         | Calibrator 0 (0 µg/g)                      |
| Calibrator 1                  | Calibrator 1 (50 µg/g)                     |
| Calibrator 2                  | Calibrator 2 (100 µg/g)                    |
| Calibrator 3                  | Calibrator 3 (250 µg/g)                    |
| Calibrator 4                  | Calibrator 4 (750 µg/g)                    |
| Calibrator 5                  | Calibrator 5 (1500 µg/g)                   |
| <b>STEPS</b>                  |  |
| Addition R1                   |  |
| Addition Sample               |  |
| Incubation R1+S               | 120-180 s                                  |
| Addition R2                   |  |
| Blank Lecture                 | 12 cycles for c501/c502-8 cycles for c503  |
| Incubation reaction           | close to 300 sec                           |
| Final lecture                 | 37 cycles for c501/c502-24 cycles for c503 |