

# Plasma/Serum test for cholinesterase

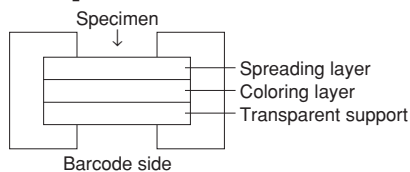
## FUJI DRI-CHEM SLIDE CHE-P

### [Warnings and precautions]

- Only the required number of slides should be taken out of the refrigerator and warmed up to room temperature before opening the individual packages.
- Do not touch either the center part of the surface or the back of the slide.
- A new slide must be used for each measurement. Do not reuse.
- Handle all patient specimens, control serum and used tips carefully as biohazardous samples. Wear proper gloves, glasses and other protective gear for your safety.
- Used slides are categorized as infectious waste. Make sure to dispose them in accordance with the Waste Disposal Law and other related regulations, which prescribe the proper method of disposal, such as incineration, melting, sterilization or disinfection.

### [Composition of the slide]

#### 1. Multi-layered structure



#### 2. Ingredients per slide

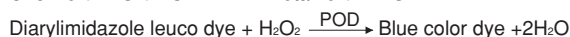
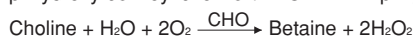
- p-Hydroxy benzoyl choline iodide 0.050 mg (0.14 µmol)
- Diarylimidazole leuco dye 0.048 mg (0.095 µmol)
- Choline oxidase 0.70 U
- Peroxidase 2.4 U

### [Intended use]

Quantitative measurement of cholinesterase activity in plasma or serum.  
For *in vitro* diagnostic use only.

### [Principle of the measurement]

10 µL of plasma or serum is deposited on a FUJI DRI-CHEM SLIDE CHE-P. During incubation at 37 °C, the spotted specimen diffuses uniformly in the spreading layer, where the substrate p-hydroxy benzoyl choline iodide is hydrolyzed to produce choline. This choline then diffuses into the lower layer, where it reacts with choline oxidase (CHO) to generate hydrogen peroxide. The hydrogen peroxide thus produced reacts with diarylimidazole leuco dye through peroxidase (POD) to yield blue color dye. The slide is incubated at 37 °C for a fixed time in the FUJI DRI-CHEM analyzer and the optical reflection density is measured at 650 nm. The aforementioned optical reflection density is then converted into the CHE concentration using calibration curve preinstalled in the analyzer.



### [Additional special equipment]

Analyzer: FUJI DRI-CHEM ANALYZER  
Other implements: FUJI DRI-CHEM QC CARD (attached)  
: FUJI CLEAN TIPS  
: FUJI HEPARIN/PLAIN TUBE or Blood collection tube specified in the "INSTRUCTION MANUAL" for FUJI DRI-CHEM ANALYZER

### [Specimen requirements]

- After collecting the blood specimen, immediate measurement is recommended.
- For plasma, heparin can be used as the anticoagulant. When using heparin, less than 50 units of heparin should be used per 1 mL of whole blood. Do not use EDTA salt, sodium fluoride, citric acid, oxalic acid and monoiodoacetic acid.
- Avoid using plasma or serum with precipitate such as fibrin.
- Do not use hemolytic plasma or serum.
- When the measured value exceeds the upper limit of the dynamic range, dilute the sample with distilled water or saline. Since the data obtained by dilution may deviate more widely than usual, the data should be treated as estimation.

### [Procedure]

- Set slides on FUJI DRI-CHEM analyzer.
- Set a sample tube in the specified sample rack.
- Input a sequence No. and a sample ID if appropriate.
- Press the "START" key to initiate testing.  
For further details of operation procedure, consult "INSTRUCTION MANUAL" for FUJI DRI-CHEM analyzer.

### [Reference intervals]

170–420 U/L (3,4 di-hydroxy benzoyl choline UV-Rate method, 37 °C) (2.84–7.01 µkat/L)

As the reference intervals depend on the population of the test, it is required that each laboratory set its own reference intervals. The clinical diagnosis must be made by the doctor in charge based on the measured results in the light of clinical symptoms and other test results.

### [Performance characteristics]

1. **Dynamic range** 5–500 U/L (0.08–8.35 µkat/L)

2. **Accuracy**

| Concentration range | Accuracy        |
|---------------------|-----------------|
| 5–70 U/L            | Within ± 14 U/L |
| 70–500 U/L          | Within ± 20 %   |

3. **Precision**

| Concentration range | Precision    |
|---------------------|--------------|
| 5–70 U/L            | SD ≤ 3.5 U/L |
| 70–500 U/L          | CV ≤ 5 %     |

4. **Correlation**

Correlation was evaluated between JSCC standard method, 37 °C and FUJI DRI-CHEM system. JSCC standard method was run on a HITACHI automated analyzer. This examination was carried out at the laboratory of FUJIFILM Corporation.

|        | n  | Slope | Intercept | Correlation coefficient |
|--------|----|-------|-----------|-------------------------|
| Plasma | 50 | 1.007 | -1.2      | 0.992                   |
| Serum  | 69 | 1.000 | -0.3      | 0.999                   |

5. **Known interfering substances**

- Dobutamine hydrochloride (cardiotonic reagent) and dopamine hydrochloride (cardiotonic reagent) give minus bias.
- The effects on the measured value were examined by adding substances as shown below to a serum sample obtained from a healthy volunteer or a control serum. No significant effect was observed to the following concentration for each substance.

|               |             |
|---------------|-------------|
| Ascorbic acid | 0.57 mmol/L |
| Bilirubin     | 340 µmol/L  |
| Hemoglobin    | 500 mg/L    |
| Total protein | 50–90 g/L   |

These results are representative;

- Test condition may have some influence on your results.
- Interferences from other substances are not predictable.

### [Internal quality control]

The accuracy and precision of this product can be evaluated with FUJI DRI-CHEM CONTROL QP-L and/or QP-H.

- Select control level in accordance with your purpose.
- Measure FUJI DRI-CHEM CONTROL QP-L and/or QP-H in the same way as patient specimens.
- When the results obtained are outside the expected range shown in the sheet attached to FUJI DRI-CHEM CONTROL QP-L or QP-H, investigate the cause.  
For additional information, consult "Instructions for Use" for FUJI DRI-CHEM CONTROL QP-L or QP-H.

### [Traceability of calibrators and control materials]

The calibration of this product has already been accomplished in our factory before shipping using internal calibrators which are not commercially available. Calibration data are supplied by a QC card enclosed in this package. Assigned values of the internal calibrators for CHE are traceable to a method with p-hydroxy benzoyl choline as a substrate.

### [Storage and shelf life]

- Storage: This product must be stored between 2–8 °C (35.6–46.4 °F) before use.
- Expiry date is printed on the carton.
- Use immediately after opening the individual package.

### [Contents]

: Slide 24  
: QC card 1



<http://lifescience.fujifilm.com>

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