

OYC Biochemicals

for Cholinesterase assay



Cholinesterase (ChE) assay is the important marker as one of the liver function tests. Its assay is also valuable for the diagnosis and treatment using ChE inhibitors and organophosphate poisoning. ChE is measured by two kinds of major methods such as chemical (colorimetric) and enzymatic methods. In Japan, the p-hydroxybenzoyl choline (pHBC) enzymatic method is approved as standard methods by JSCC (Japanese Society of Clinical Chemistry) since it allows measurement by molar extinction coefficient and has superior linearity. OYC supplies a variety of raw materials for ChE JSCC method. Please try our products for ChE assay.

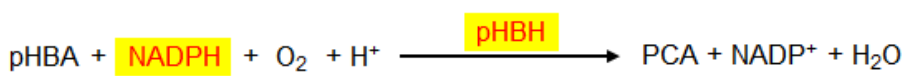
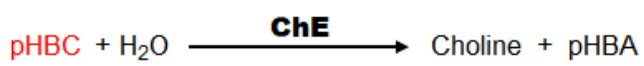
Assay Principle

Cholinesterase ChE, CHS

Liver function tests

■ pHBC method

Main Reaction



Elimination of side reaction



PCO eliminates the PCA produced in the main reaction, preventing side reactions. For details, see the next page.



Major ingredients in the reagent are colored **red**.
OYC's available product is highlighted in **yellow**.

OYC can supply the following products in bulk!

OYC's PRODUCTS for ChE assay

rpHBH from Microorganism

Product Item	Catalog No.	pH stability (4°C, 2 weeks)	Thermal stability (pH 8.0, 15 min)	Optimum pH	Optimum temp.	Km value (p-Hydroxybenzoate)	Km value (NADPH)
rpHBH	46853903	5.5-7.5	≤ 30°C	7.0-7.5	37-40°C	2.1 x 10 ⁻⁵ mol/L	2.5 x 10 ⁻⁴ mol/L

rPCO from Microorganism

Product Item	Catalog No.	pH stability (11°C, 3 weeks)	Thermal stability (pH 7.5, 15 min)	Optimum pH	Optimum temp.	Km value (Protocatechuate)
rPCO	46852904	5.5-9.5	≤ 55°C	9.0	65°C	2.8 x 10 ⁻⁵ mol/L

NADPH

Product Item	Catalog No.
NADPH	44332900

Control/Calibrator

Product Item	Status
rhChE	In development

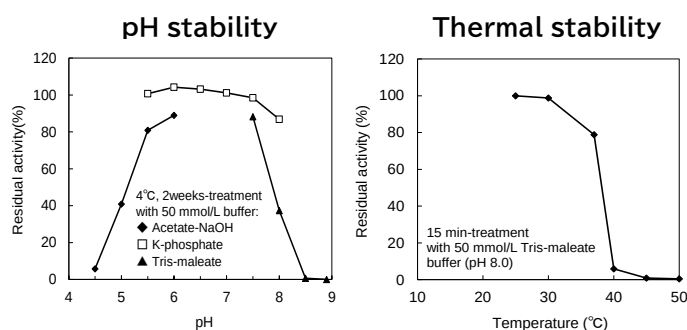
➤ Please contact us for the detailed product features.

REFERENCE DATA -rpHBH

Features of pHBC method

- Possible to measure by molar extinction coefficient.
- Superior linearity in ChE assay.
- Less susceptible to biological pigments due to UV external photometry.

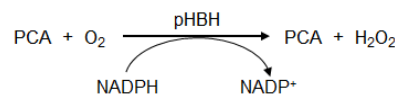
rpHBH



REFERENCE DATA -rPCO

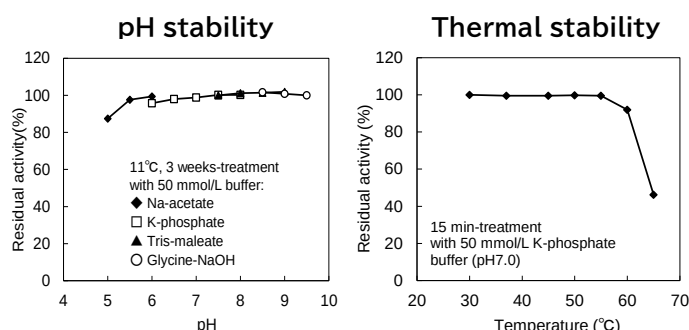
Elimination of side reaction of pHBH

pHBH also reacts with PCA as a side reaction which causes errors in pHBH assay results (see below).



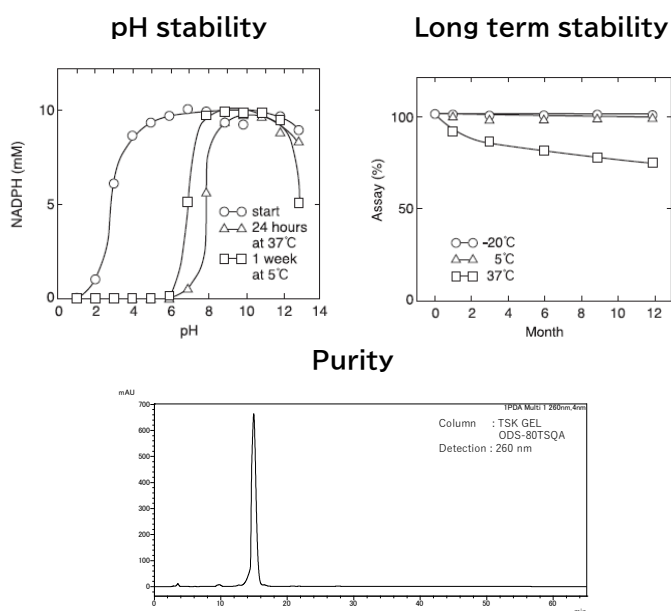
PCO eliminates PCA faster than pHBH which leads to accurate ChE assay.

rPCO



REFERENCE DATA -NADPH

NADPH



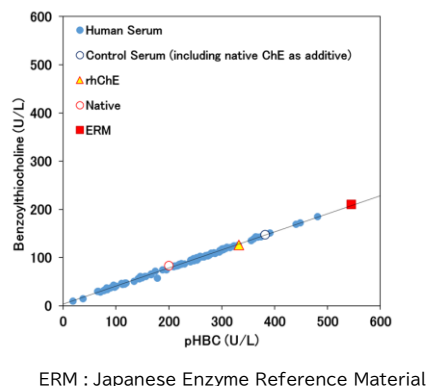
REFERENCE DATA -rhChE

Commutability

OYC recombinant human enzyme (rhChE), Human Serum, Control Serum (including native ChE as additive), Native and ERM were analyzed by pHBC* method and benzoylthiocholine* method.

*Substrate for measuring ChE activity

rhChE



OYC supports the development and manufacture of IVD reagents for our customers.



ORIENTAL YEAST CO.,LTD.

Please contact our sales representative or visit the following website.

<https://www.oyc.co.jp/en/inquiry/index.html>