

OYC Biochemicals



for Carnitine assay

Carnitine assay allows diagnosis of carnitine deficiency and appropriate treatment*. Carnitine is essential for fatty acid metabolism *in vivo* and exists in free carnitine and acylcarnitine. When carnitine is deficient due to inborn errors of metabolism or medical practices such as dialysis or drug administration, it causes clinical symptoms such as impaired consciousness, hypoglycemia, abnormal liver function and so on. Accordingly, it is important to monitor the carnitine concentration in the blood. OYC supplies raw materials for carnitine reagents by enzymatic cycling method. Please try our products for carnitine assay.

*The "levocarnitine preparation" is known as a treatment for carnitine deficiency.

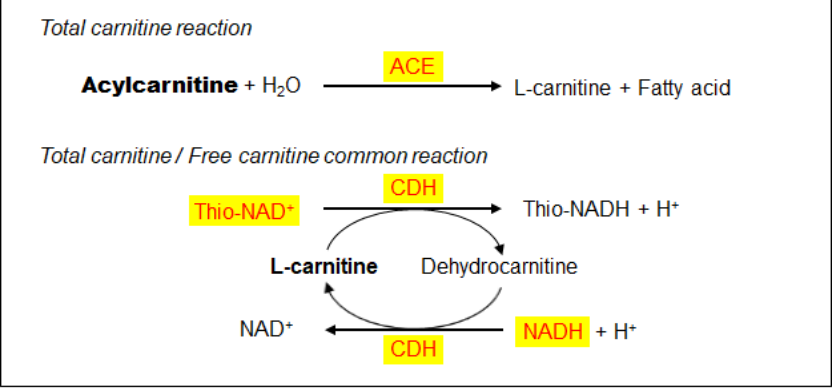
Assay Principle

Carnitine

Diagnostic aid for carnitine deficiency

Enzyme cycling method

Highly sensitive quantification is performed by combining enzymatic reactions by enzyme (**CDH**) and coenzymes (**Thio-NAD⁺/NADH**) and amplifying reaction products.



Acylcarnitine concentration
= Total carnitine concentration – Free carnitine concentration

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 Carnitine assay

rACE from Microorganism

Product Item	Status	pH stability (25°C, 4 weeks)	Thermal stability (pH 8.0, 30 min)	Optimum pH	Optimum temp.	Km value (DL-Octanoylcarnitine)
rACE	In development	4.0-10.0	≤ 60°C	8.6-8.7	50°C	1.3 x 10 ⁻⁴ mol/L

rCDH from Microorganism

Product Item	Status	pH stability (25°C, 1 week)	Thermal stability (pH 8.0, 30 min)	Optimum pH	Optimum temp.	Km value (L-Carnitine)	Km value (NAD)
rCDH	In development	6.6-7.9	≤ 40°C	8.6-9.0	55°C	9.4 x 10 ⁻³ mol/L	1.8 x 10 ⁻⁴ mol/L

Thio-NAD⁺

Product Item	Catalog No.
Thio-NAD ⁺	44104900

NADH

Product Item	Catalog No.
NADH	44320900

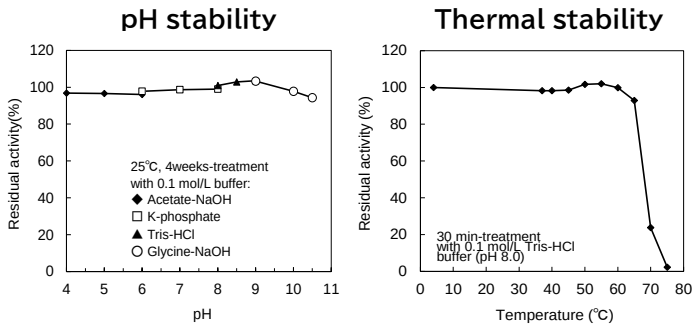
➤ Please contact us for the detailed product features.

REFERENCE DATA -rACE

Enzyme with superior substrate specificity

As the enzyme has high substrate specificity, it is not affected by similar substances.

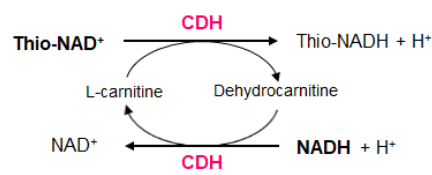
rACE



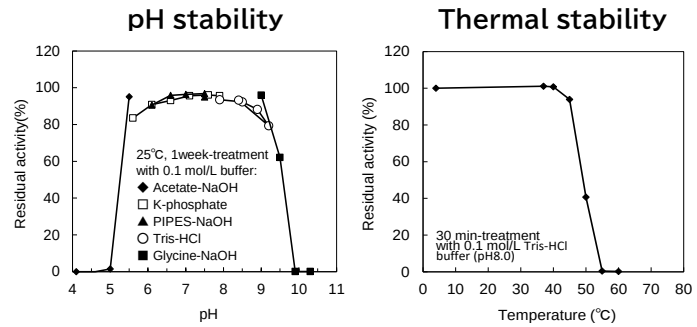
REFERENCE DATA -rCDH

Highly sensitive assay using CDH

The enzymatic cycling method, which takes advantage of the properties of CDH, enables highly sensitive assay.

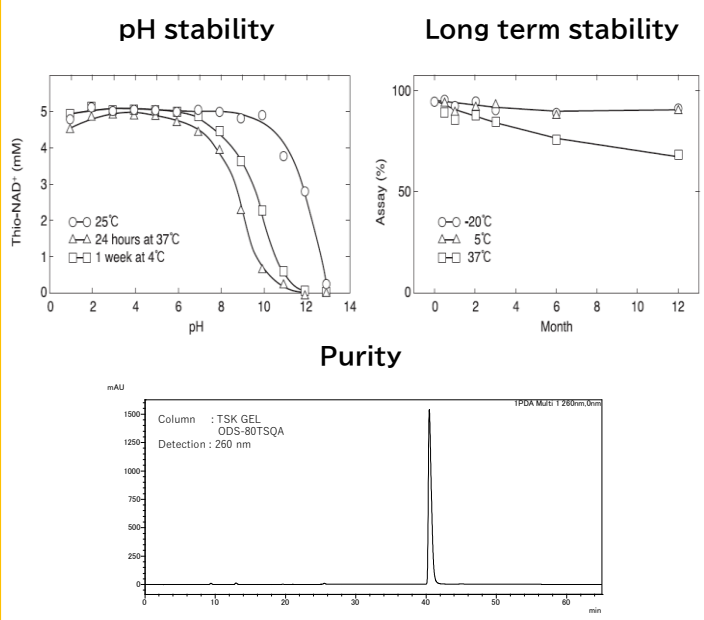


rCDH



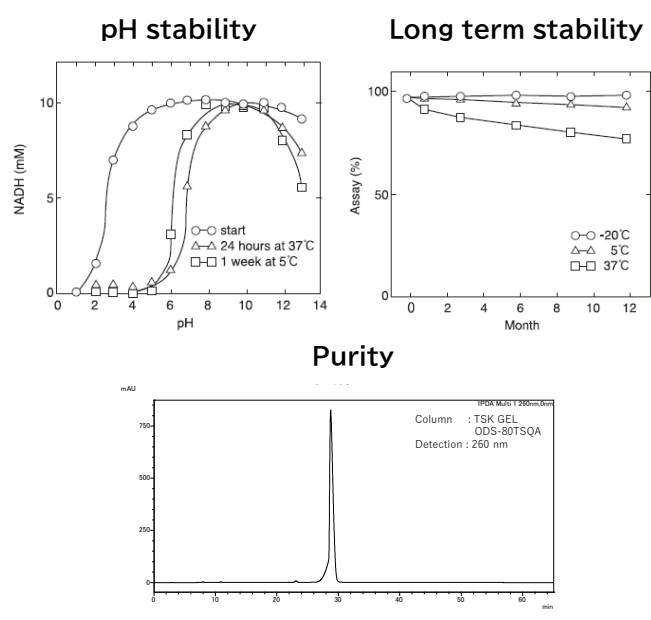
REFERENCE DATA -Thio-NAD⁺

Thio-NAD⁺



REFERENCE DATA -NADH

NADH



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