

FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.

Total Ketone Bodies

Cyclic Enzymatic Method

- High sensitivity enzymatic method
- High specificity enzymatic method
- Stable formulation
- Easy to use on automated analyzers



Ketone bodies are substances that are metabolically produced from fatty acids in the liver. The ketone bodies assays are used for research to evaluate the concentration of ketone bodies.

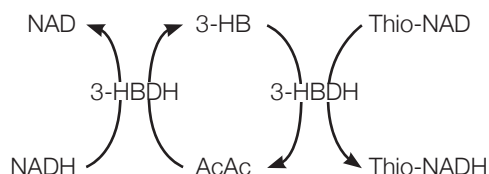
The FUJIFILM Wako Autokit Total Ketone Bodies is an in vitro assay for the quantitative determination of total ketone bodies in serum or plasma. The Autokit Total Ketone Bodies reagents produce measurements that have a high sensitivity and specificity by utilizing cyclic enzymatic reactions.

Catalog No.	Product Name	Pkg Size	Storage
415-73301	Autokit Total Ketone Bodies R1 Set		
	Thio-NAD	2 x for 27 mL	2-10°C
	Buffer	2 x 27 mL	2-10°C
411-73401	Autokit Total Ketone Bodies R2 Set		
	Enzyme	2 x for 9 mL	2-10°C
	Diluent	2 x 9 mL	2-10°C
412-73791	Ketone Body Calibrator 300	4 x 5 mL	2-10°C
418-73891	Ketone Body Calibrator 40	4 x 5 mL	2-10°C

PERFORMANCE CHARACTERISTICS

Principle

When a sample is mixed with R1 and R2, AcAc and 3-HB in the sample are converted to 3-HB and AcAc, respectively while in the presence of 3-Hydroxybutyrate dehydrogenase (3-HBDH), NADH, and Thio-NAD. 3-HB and AcAc produced in the enzymatic reactions are then converted to AcAc and 3-HB respectively. During these cyclic reactions, NAD and Thio-NADH are produced. The concentration of total ketone bodies in the sample is determined by measuring the rate of Thio-NADH production with a spectrophotometer.



3-HB 3-hydroxybutyrate
 3-HBDH 3-Hydroxybutyrate dehydrogenase
 Thio-NAD β-Thionicotinamide adenine dinucleotide
 NADH β-nicotinamide adenine dinucleotide disodium
 AcAc Acetoacetone

Accuracy

The accuracy of the assay was demonstrated by a control recovery study.

Sample #	Expected Conc. (μmol/L)	Observed Conc. (μmol/L)	Recovery (%)
Sample 1	40	40	100%
Sample 2	150	148	99%
Sample 3	300	296	99%

Precision

Within-run precision (standard procedure)

Sample #	Replicates	Mean (μmol/L)	SD	CV (%)
1	21	74.5	1.21	1.62
2	21	148.8	2.00	1.34
3	21	300.4	5.77	1.92

Within-run precision (high sensitive procedure)

Sample #	Replicates	Mean (μmol/L)	SD	CV (%)
1	21	40.1	0.7684	1.9
2	21	70.5	0.9284	1.3

Total precision (standard procedure)

# days	Mean (μmol/L)	SD	CV (%)	Sw	St
21	76.18	1.9156	2.51	0.94	1.92
21	157.85	4.2257	2.72	2.10	4.22
21	303.52	3.9615	1.31	2.36	3.96

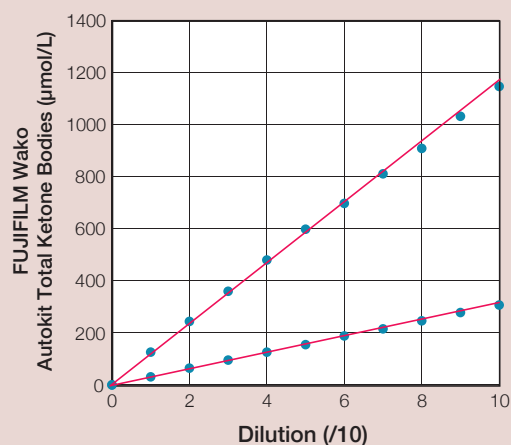
Total precision (high sensitive procedure)

# days	Mean (μmol/L)	SD	CV (%)	Sw	St
21	40.26	0.99	2.47	0.55	1.00
21	73.26	1.94	2.65	0.71	1.94

Linearity

High Sensitivity Linear Range: up to 200 μmol/L

Standard Linear Range: up to 1000 μmol/L



Instruments

Various automated analyzer applications are available.