SEKISUI

Automatic Analyzer Reagents

Lipids

SEKISUI MEDICAL CO.,LTD.

Lipids

Automatic Analyzer Reagents

Triglyceride kit

Cholestest® TG

1. Purpose of use

For the measurement of Triglyceride(TG) in serum or plasma

TG, the main constituent of body fat, is formed by the esterfication of glycerol and three fatty acids. Measurement of TG is useful in the diagnosis of abnormal lipid metabolism. TG has been attracting attention for its correlation with arterial sclerosis and coronary arteriopathy.

2. Features

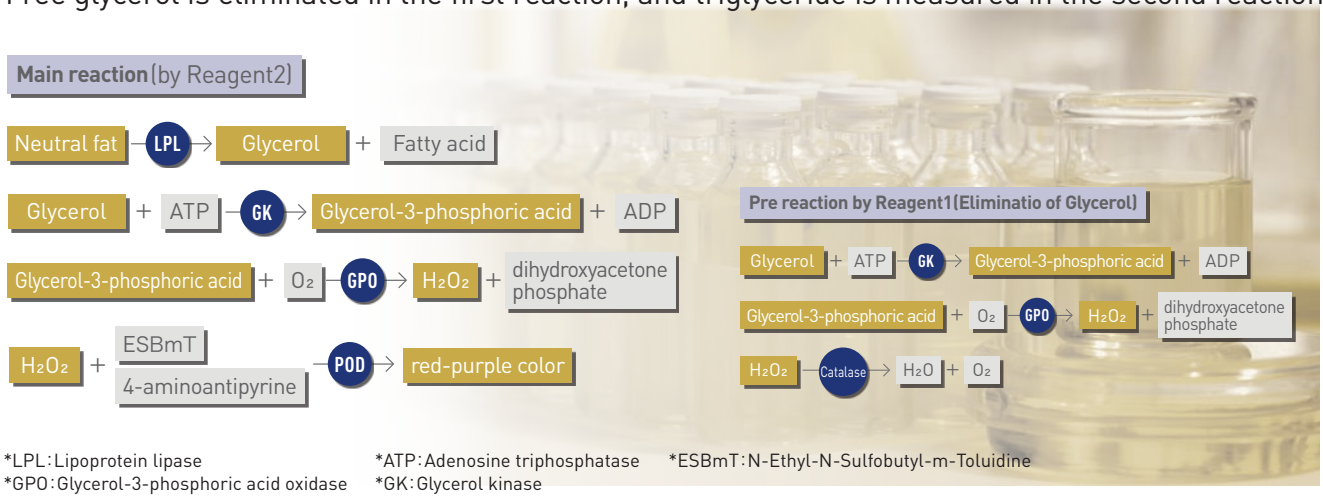
1. Minimally affected by cross-contamination.
2. Free glycerol is eliminated by the enzymatic method.
3. There are no influence of Bilirubin, Hemolysis, Ascorbic acid

3. Components and Ingredients

- Reagent 1
  N-ethyl-N-sulfobutyl-m-toluidine sodium, good buffer(pH7.0)
  Glycerol kinase, Glycerol-3-phosphoric acid oxidase
- Reagent 2
  4-aminoantipyrine, Lipoprotein lipase,
  Peroxidase, good buffer(pH6.5)

4. Measurement principle (Enzyme/Free glycerol eliminated method)

Free glycerol is eliminated in the first reaction, and triglyceride is measured in the second reaction.



*LPL:Lipoprotein lipase
*GPO:Glycerol-3-phosphoric acid oxidase
*ATP:Adenosine triphosphatase
*GK:Glycerol kinase
*ESBmT:N-Ethyl-N-Sulfobutyl-m-Toluidine

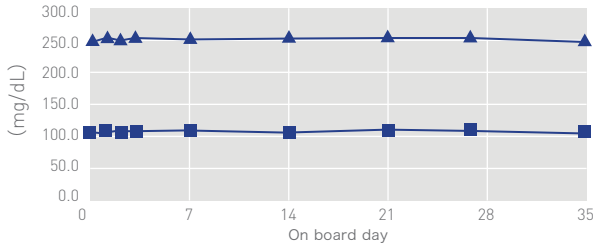
5. Data

Within-run reproducibility

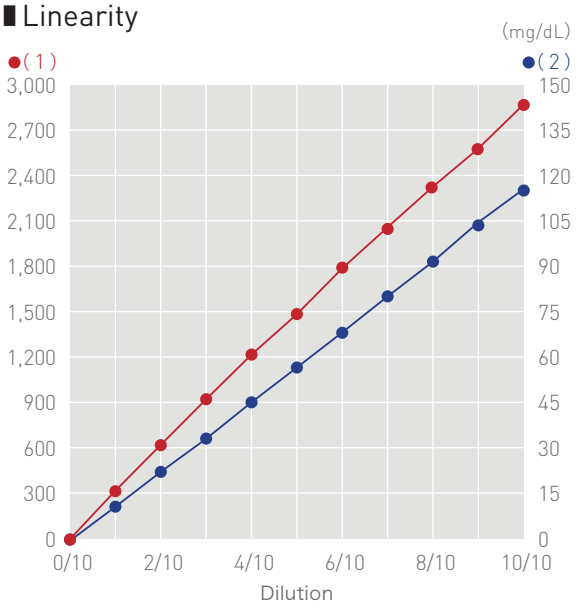
(mg/dL)

	Sample1	Sample2	Sample3
n	20	20	20
Mean	103.6	254.6	119.6
S.D.	0.89	1.70	1.19
C.V. (%)	0.86	0.67	0.99
Max.	106	258	121
Min.	102	252	117
Range	4	6	4

Stability

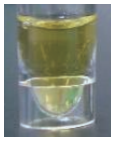
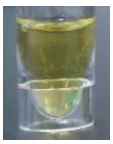
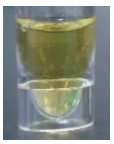


Linearity

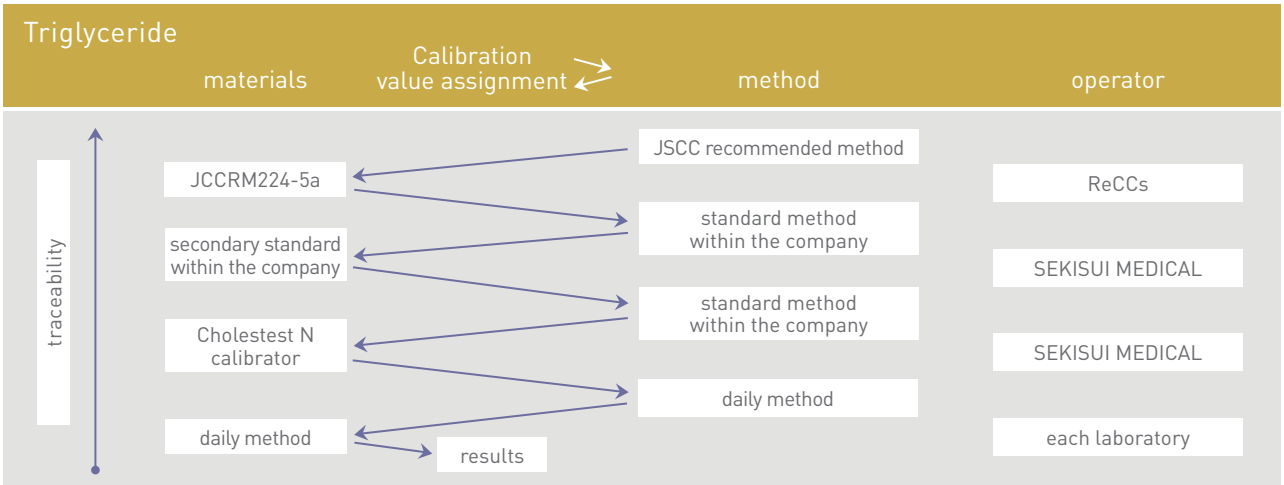


Interference

(mg/dL)

		F-BIL	C-BIL	Hb	Ascorbic acid	Rheumatoid factor	Glycerol
addition concentration		20 mg/dL	20 mg/dL	500 mg/dL	50 mg/dL	500 U/mL	5000mg/dL
measurement value	Base Serum	104.0	104.0	105.0	108.0	118.0	101.5
							
	Including interfering substance	103.0	103.5	106.5	105.0	117.0	102.5
							

6. Traceability



Cholesterol kit

Cholestest® CHO

1. Purpose of use

For the measurement of total cholesterol (CHO) in serum or plasma.

CHO is produced in the liver and is also dietary-derived.
Measurement of CHO is useful for the diagnosis of abnormal lipid metabolism, liver disease, and metabolic disease.

2. Features

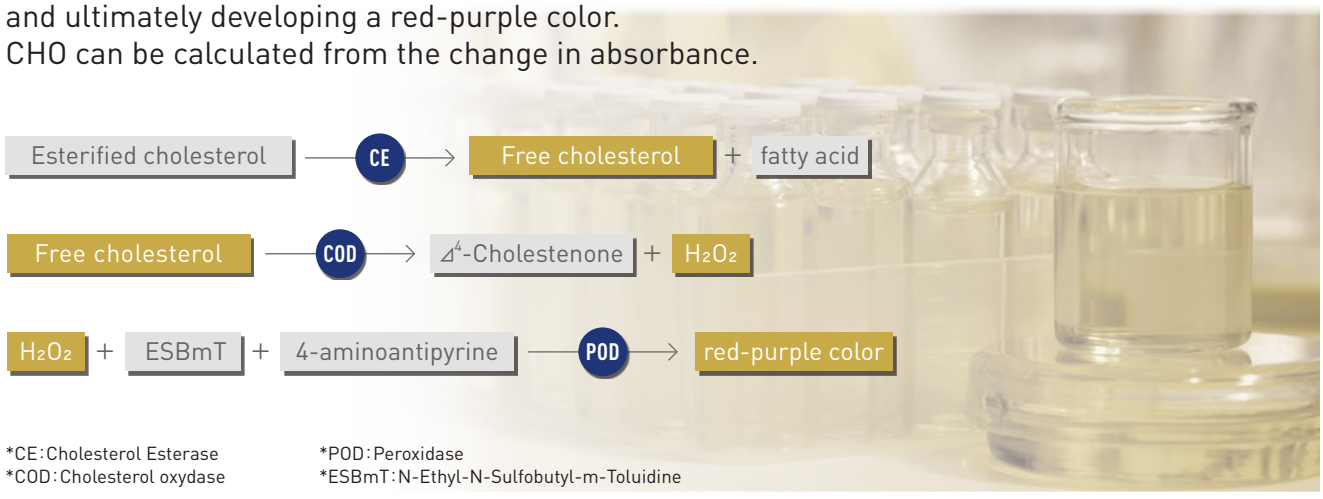
1. Minimally affected by cross-contamination.
2. There are no influence of Bilirubin, Hemolysis, Ascorbic acid

3. Components and Ingredients

- Reagent 1
  4-aminoantipyrine, Cholesterol Esterase, Peroxidase
- Reagent 2
  Cholesterol oxydase, N-ethyl-N-sulfobutyl-m-toluidine sodium

4. Measurement principle (enzyme method/COD-POD method)

Cholesterol can be categorized into ester type and free type.
Ester type cholesterol is converted to free type cholesterol by cholesterol esterase.
Free type cholesterol produces H_2O_2 during the reaction,
and ultimately developing a red-purple color.
CHO can be calculated from the change in absorbance.



*CE: Cholesterol Esterase
*COD: Cholesterol oxydase
*POD: Peroxidase
*ESBmT: N-Ethyl-N-Sulfobutyl-m-Toluidine

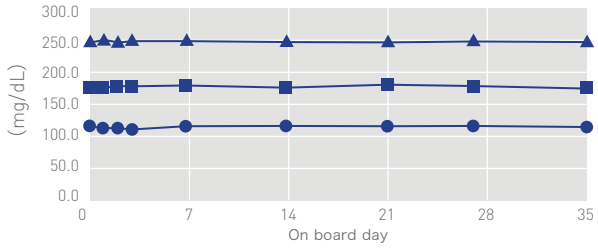
5. Data

Within-run reproducibility

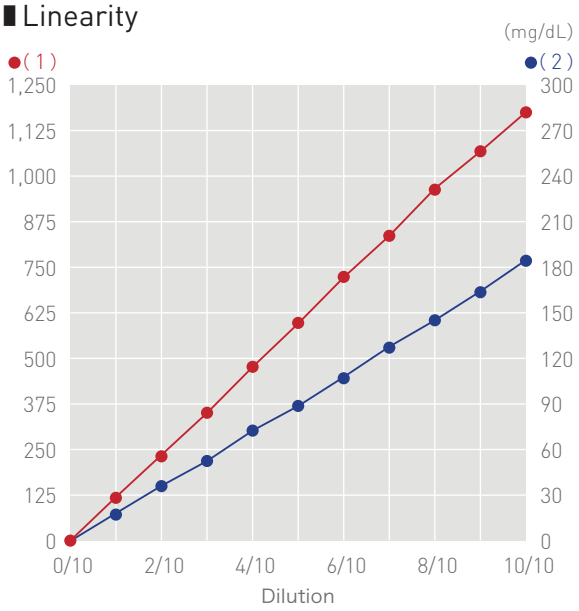
(mg/dL)

	Sample1	Sample2	Sample3
n	20	20	20
Mean	114.1	252.1	174.8
S.D.	0.85	2.02	1.47
C.V. (%)	0.75	0.80	0.84
Max.	116	255	178
Min.	113	249	173
Range	3	6	5

Stability

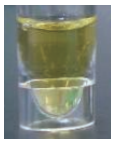
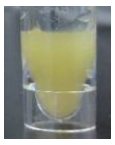
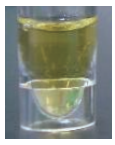


Linearity

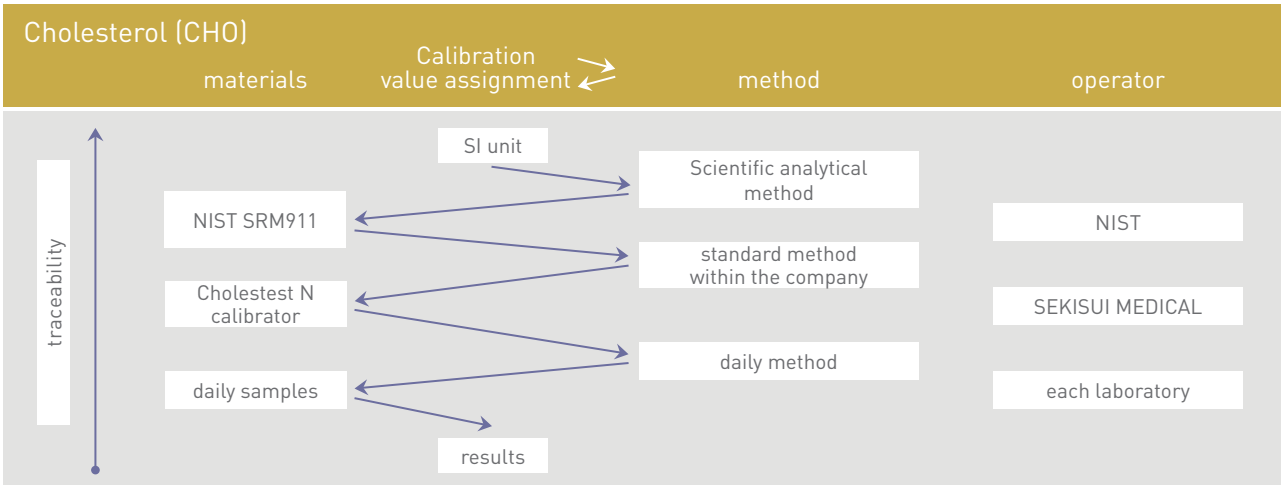


Interference

(mg/dL)

		F-BIL	C-BIL	Hb	Chyle	Ascorbic acid	Rheumatoid factor
addition concentration		20 mg/dL	20 mg/dL	500 mg/dL	3000 formazin turbidity	50 mg/dL	500 U/mL
measurement value	Base plasma	161.5	160.0	161.5	164.0	167.0	181.0
							
	Including interfering substance	160.0	161.5	161.0	172.5	165.5	181.0
							

6. Traceability



HDL-C kit

Cholestest® N HDL

1. Purpose of use

For the measurement of HDL-C in serum or plasma

The decreases in HDL cholesterol concentration is associated with coronary artery disease, hyperlipidemia, smoking, obesity, diabetes and hepatic diseases; increase in the concentration is associated with alcohol intake or moderate exercise.
In addition, factors such as age, gender, and genetic predisposition are known to affect the concentration of HDL cholesterol.

2. Features

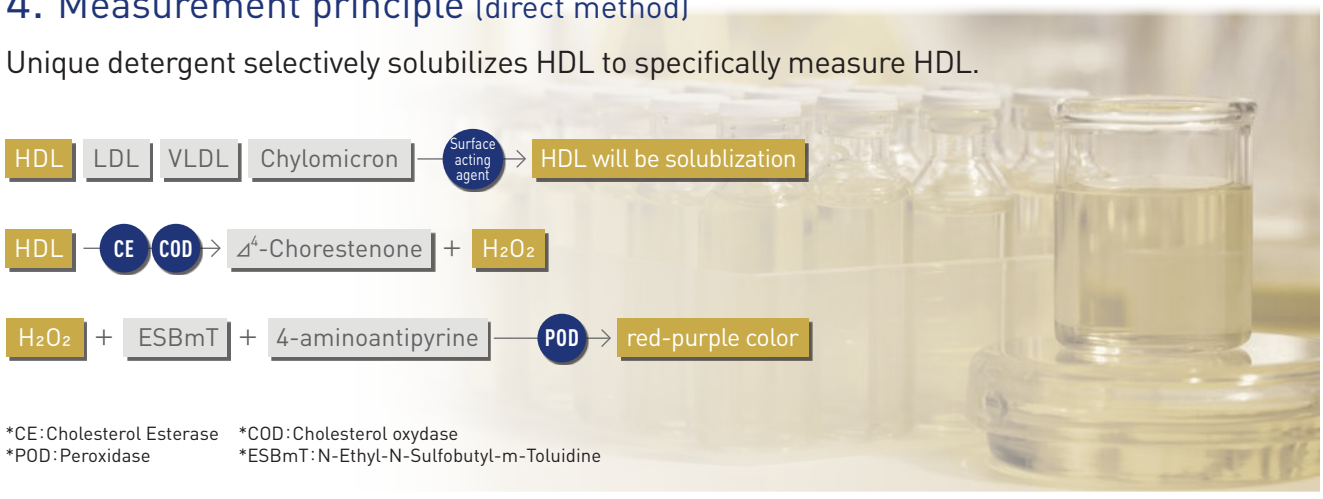
1. Accurate value can be obtained from highly chylous samples
2. Accurate value can be obtained from samples with high immune globulin levels
3. No burden on the instrument as the reagent does not contain metal ions such as Mg salt
4. There are no influence of Bilirubin, Hemolysis, Ascorbic acid

3. Components and Ingredients

- Reagent 1
  N,N-bis(4-sulfobutyl)-m-toluidine2Na(DSBmT)
  Choresterol oxidase(from bacteria), peroxidase, good buffer(pH6.0)
- Reagent 2
  4-aminoantipyrine,Cholesterol Esterase,Surface acting agent, good buffer(pH6.0)

4. Measurement principle (direct method)

Unique detergent selectively solubilizes HDL to specifically measure HDL.



*CE:Cholesterol Esterase *COD:Cholesterol oxydase
*POD:Peroxidase *ESBmT:N-Ethyl-N-Sulfobutyl-m-Toluidine

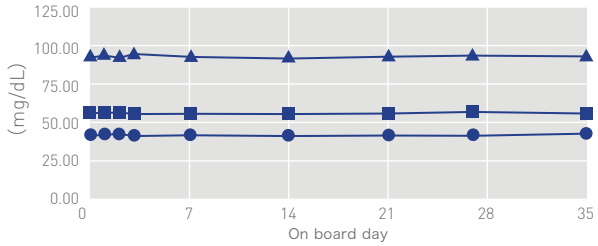
5. Data

Within-run reproducibility

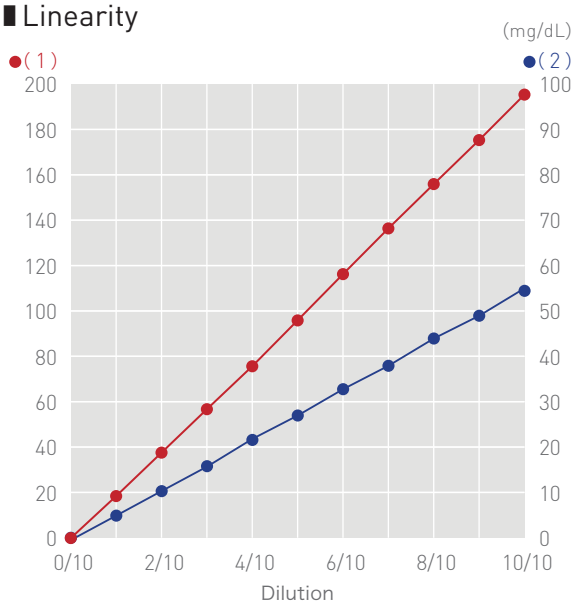
(mg/dL)

	Sample1	Sample2	Sample3
n	20	20	20
Mean	38.72	90.78	53.77
S.D.	0.38	0.54	0.47
C.V. (%)	0.98	0.59	0.87
Max.	39.6	91.9	54.5
Min.	38.1	89.8	53.0
Range	1.5	2.1	1.5

Stability

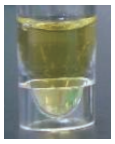
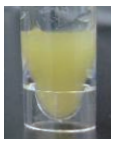
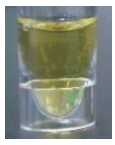


Linearity

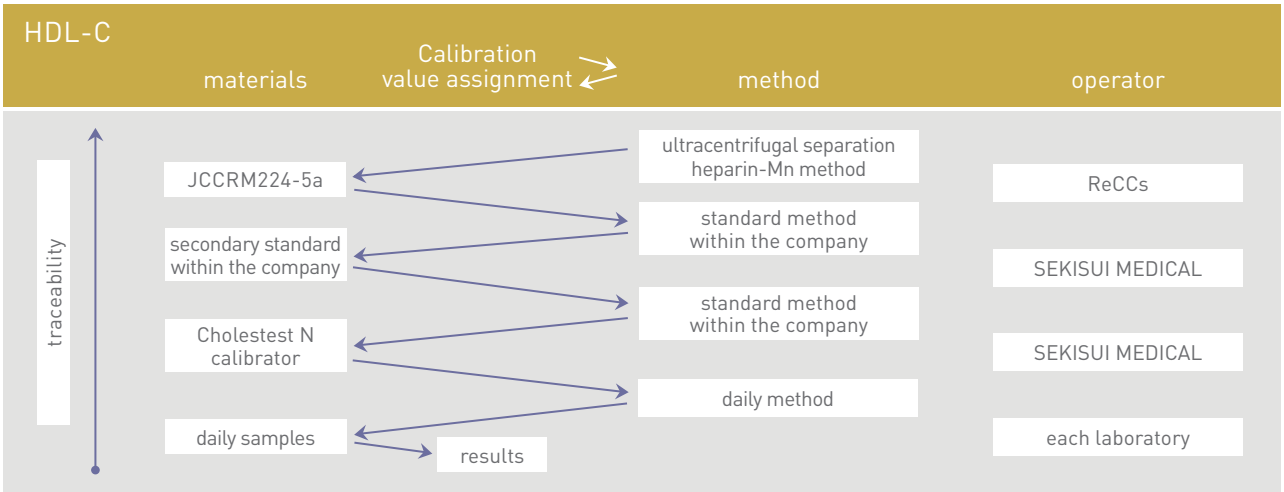


Interference

(mg/dL)

		F-BIL	C-BIL	Hb	Chyle	Ascorbic acid	Rheumatoid factor
addition concentration		20 mg/dL	20 mg/dL	500 mg/dL	3000 formazin turbidity	50 mg/dL	500 U/mL
measurement value	Base plasma	49.0	49.3	49.7	49.8	50.6	55.8
							
	Including interfering substance	50.8	50.0	50.5	49.0	50.2	55.0
							

6. Traceability



LDL-C kit

Cholestest® LDL

1. Purpose of use

For the measurement of LDL-C in serum or plasma

Traditionally, measurement of total cholesterol had been widely used for the diagnosis of hyperlipidemia, one of the causes of arteriosclerotic disease.
However, in 1986, Health, Labor, and Welfare Ministry reported that ischemic heart disease has a stronger correlation with LDL cholesterol level.

2. Features

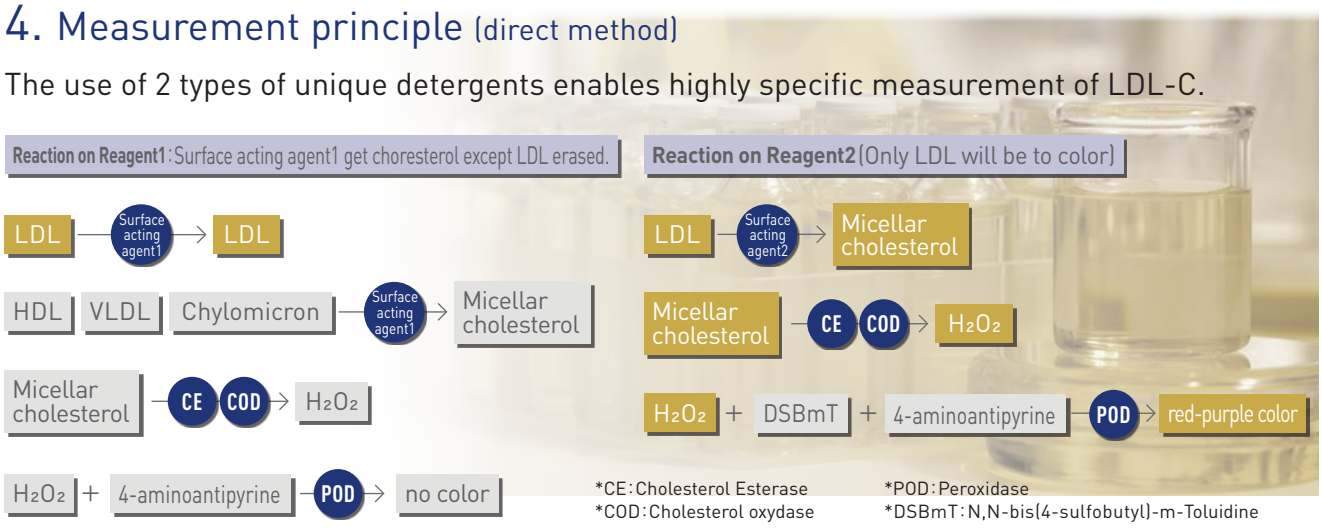
1. Correct value can be obtained from highly chylous samples (up to TG 1500mg/dL)
2. Good correlation with β quantification
3. There are no influence of Bilirubin, Hemolysis, Ascorbic acid

3. Components and Ingredients

- Reagent 1
  4-aminoantipyrine,Chorestrol oxidase, Cholesterol Esterase
  Peroxidase, Surface acting agent1, good buffer(pH6.3)
- Reagent 2
  N,N-bis(4-sulfobutyl)-m-toluidine2Na(DSBmT)
  Surface acting agent2, good buffer(pH6.3)

4. Measurement principle (direct method)

The use of 2 types of unique detergents enables highly specific measurement of LDL-C.



*CE: Cholesterol Esterase
*COD: Cholesterol oxydase
*POD: Peroxidase
*DSBmT: N,N-bis(4-sulfobutyl)-m-Toluidine

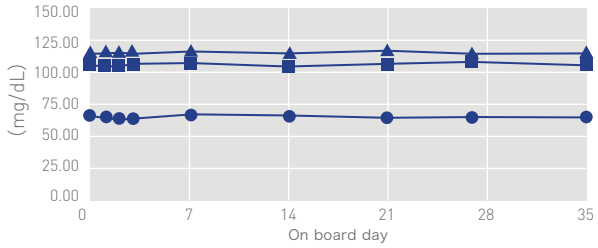
5. Data

Within-run reproducibility

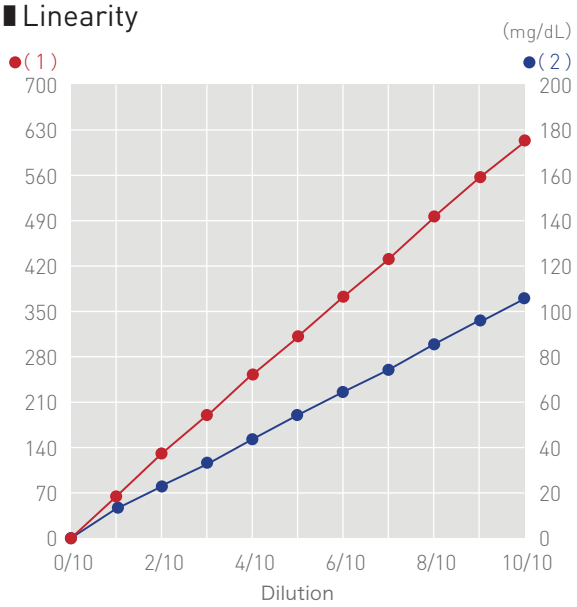
(mg/dL)

	Sample1	Sample2	Sample3
n	20	20	20
Mean	65.1	115.5	106.2
S.D.	0.69	1.00	0.49
C.V. (%)	1.06	0.87	0.46
Max.	66	117	107
Min.	64	114	105
Range	2	3	2

Stability

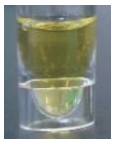
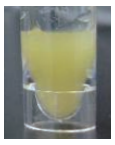
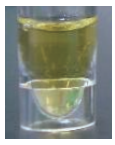


Linearity

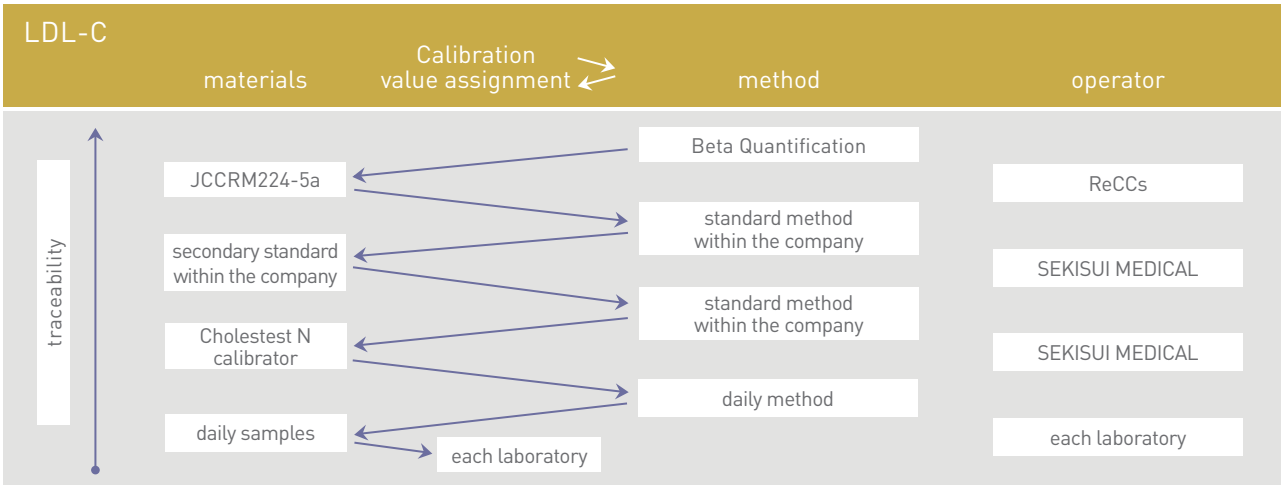


Interference

(mg/dL)

		F-BIL	C-BIL	Hb	Chyle	Ascorbic acid	Rheumatoid factor
addition concentration		20 mg/dL	20 mg/dL	500 mg/dL	3000 formazin turbidity	50 mg/dL	500 U/mL
measurement value	Base plasma	95.5	96.0	95.0	96.5	97.0	105.0
							
	Including interfering substance	93.5	93.5	96.0	95.5	96.0	105.5
							

6. Traceability



For more information contact:

SEKISUI

SEKISUI MEDICAL CO., LTD.

International Business Department
Diagnostics Division

13-5, Nihonbashi 3-chome, Chuo-ku, Tokyo 103-0027 JAPAN
Tel: +81-3-3272-0828, Fax: +81-3-3272-0907
E-mail: international@sekisui.jp
Web: www.sekisuimedical.jp/english