

himac APPLICATION

No. 90 JULY 1999

Subject Quick separation of lipoprotein with the neo angle rotor

Model CS-GX series preparative micro ultracentrifuges

Quick separation of lipoprotein from human serum using the S100NT neo angle rotor

Lipoproteins that are included in serum have a close relation to metabolism of lipid, and they are noticed in the research field on hyperlipemia. This time, lipoproteins LDL and HDL were separated from human serum in one centrifugal operation with the micro ultracentrifuge and the neo angle rotor whose maximum speed is 100,000 rpm (4PA seal tubes: actual capacity 3.7 ml).

Result of experiment



Fig. 1 After centrifugation

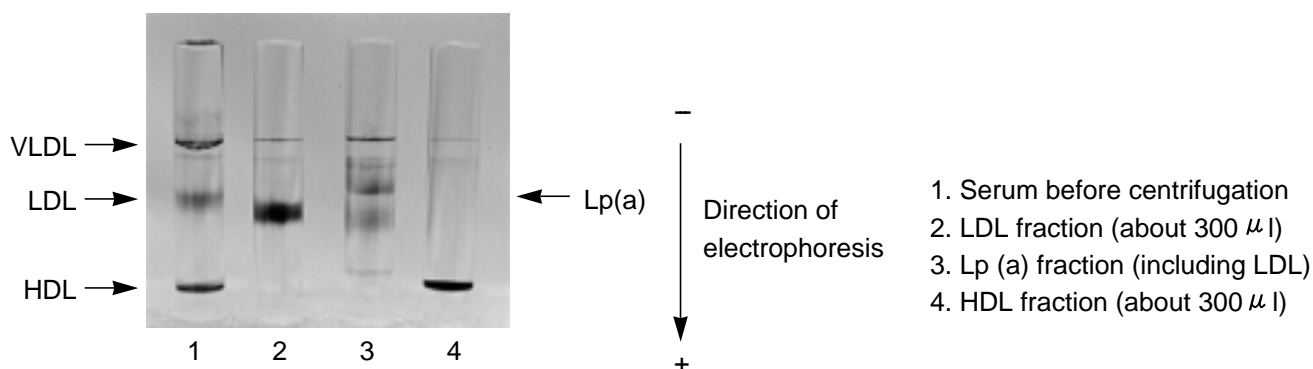
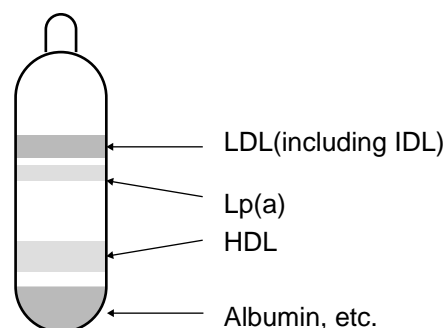


Fig. 2 Result of electrophoresis*

*: PAG disk electrophoresis for lipoprotein: Lipophor kit (JOKOH CO., LTD.)

1. Instruments used

Centrifuge: Hitachi CS-GX series preparative micro ultracentrifuges

Rotor: S100NT neo angle rotor

Tube: 4PA seal tubes

2. Operation

1) Centrifugal conditions

Rotor	Speed (rpm)	Time (min)	Temperature (°C)	Acceleration mode	Deceleration mode
S100NT neo angle rotor	100,000	70	10	5	7

(2) Tubes used

4PA seal tubes

(3) Procedure

- 1) Put 2.5 ml of buffer in the tube.
- 2) Add 1.2 ml of plasma from the bottom of the tube. (A 2-ml syringe and a needle of 0.65 mm in diameter and 60 mm in length (TERUMO's Cathelin Needle NN-2360C) were used.)
- 3) When the amount of sample is insufficient and the tube is not full, add buffer from the top of the tube until the tube becomes full.
- 4) Seal the opening of the tube with the STF-1 tube sealer.
- 5) Perform centrifugation at 100,000 rpm, 10°C and 70 minutes with the S100NT neo angle rotor.
- 6) Make an air hole at the top of the tube with a syringe needle. Extract fractions of each band with a syringe by inserting the needle into the tube at each band position.

Serum: After sampling, leave the blood about 30 minutes. Perform centrifugation at 3,000 rpm and 10 minutes to obtain serum. Add 0.3816 g of KBr per milliliter of serum to make it $d=1.24$ g/ml.

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