KINGFISHER™ GENOMIC DNA PURIFICATION PROTOCOL

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Labsystem's KingFisher™ magnetic particle processor is designed for the automated transfer and processing of magnetic particles in a microwell scale. The principle of the KingFisher™ system is based on the use of magnetic rods covered with disposable, specially designed tip combs and microstrips. The instrument functions without any sucking or aspiration parts or devices.

Genomic DNA isolation kit (Labsystems, Finland) is based on paramagnetic particles and can be used with KingFisher™ magnetic particle processor to automate genomic DNA purification. The kit is designed for isolation of DNA for several downstream applications including PCR and restriction analysis.

The following protocol uses 40μl of blood as a starting material:

1. The sample is incubated with particles in well A for 3 minutes
2. The sample is incubated with particles in well B for 3 minutes
3. The sample is incubated with particles in well C for 3 minutes
4. The sample is incubated with particles in well D for 3 minutes
5. The particles with bound DNA are washed in well E (washing buffer)
6. The particles are washed in well F (70% EtOH)
7. The particles are washed in well F (70% EtOH)
8. The purified DNA is released into distilled water in well H
9. The particles are removed and returned into well F.

Conclusions:
The genomic DNA purification protocol takes only 29 minutes.
KingFisher™ enables simultaneous processing and purification of up to 24 samples in one run.
We observed no cross-contamination between wells.
We obtained good quality DNA even from badly decomposed blood samples.