Extractor of biological samples designed to automatically perform extractions from large samples

<table>
<thead>
<tr>
<th>Quick</th>
<th>Rapid extraction process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>A quick start of the robot</td>
</tr>
<tr>
<td>Cheap</td>
<td>A low unit cost per sample</td>
</tr>
<tr>
<td>Effective</td>
<td>Versatility of possible extractions</td>
</tr>
<tr>
<td>Rugged</td>
<td>Robust with a low maintenance costs</td>
</tr>
<tr>
<td>Safe</td>
<td>Comply with safety rules</td>
</tr>
</tbody>
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DNA Extraction … :

- Extraction of large and high molecular weight DNA amounts usable for many years if the storage conditions are appropriate
- Excellent quality of DNA for sequencing, PCR, enzymatic digestion, cloning… (OD 260/280 between 1.8 and 1.96, OD 260/230 between 1.8 and 2.29)

… Furthermore :

- Multi-protocols
- Preparation of cell pellets, blood, blood plasma collection, « buffy coats » …
- A robotized centrifuge that, thanks to a patented device, carry out the following operations: centrifugation, reagent dispensing, several modes of agitation, supernatant draining for 24 tubes simultaneously
- A robotic arm that moves the sample tubes to dedicated locations, opens and shuts the tubes and moves the dispensing nozzles of reagents
- An incubator-agitator programmable in temperature (up to 65°C), in frequency and amplitude
- A barcode reader that communicate with a database for sample traceability and for linking the extract to the starting sample, one to one

Robot functions :

- Transfer, opening and closing of the 20ml specific extraction tubes
- Automated sample weight or volume calculation, and tube identification by internal bar code and datamatrix reader
- Reagent dispensing by precision syringe and up to 8 peristaltic pumps
- Incubation inside the centrifuge between 4°C and 39°C and up to 65°C in the incubator/agitator
- Soft shaking for mixing the tube content; vortex function for mixing and breaking-up pellets in the tubes, inside the centrifuge
- Centrifugation at up to 3000g
- Decanting part of the tube content into new ones, using a state of the art syringe (supernatant, « buffy coat », blood plasma collection…)
- Draining supernatants of all tubes in a batch simultaneously; effluent collection in a disposable container
- Transfer of the rehydrated DNA, from the 20ml tubes to micro tubes (or other types of vessels), for control and storage (optional)
- At the end of the run, the capped tubes are relocated on their tube rack. The starting sample tubes are retained for control