

## TECAN GENESIS RSP 150/8 AND MINIPREP 75 ROBOTICS EXTRACTION OF BLOOD FOR THE METHODS DNA IQ™ System AND FTA® CARD

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The isolation of DNA starting from blood using robotics systems is a quick and sure alternative for the Forensic laboratories. BIOMOL Ltda has standardized the isolation of blood starting from disc of FTA® paper in the equipments Miniprep 75 and GENESIS RSP 150/8 of TECAN, in this last one, it has also been standardized, the DNA IQ™ System of Promega.

For the DNA IQ™ System a work table was configured in the GÉNESIS RSP 150/8 DE TECAN using the following accessories: Base unit including RoMa arm with gripper, Eppendorf base Magnetic block(760701), Carrier for Eppendorf tubes (613035), Carrier for PCR Plate (613034) Carrier for tubes 10 mm tubes, 16 positions (613014) Carrier for disposable tips DiTi / Waste 2 positions, with waste bag holder (613012), Carrier for additive (613020), Reagent Troughs 25 ml for uses in (619626) and disposable conductive tips and disposable tips for RSP 150. This allowed us to process at one time from 1 up to 48 samples in 25 minutes.

For the system FTA®, processed in the GENESIS RSP 150/8 of TECAN, The work table was configured with the following accessories: Carrier for Eppendorf tubes (613035), Carrier for PCR Plate(613034), Reagent Troughs 25 ml for uses in (619626) and disposable conductive tips and disposable tips for RSP 150.

The same system, but in the Miniprep 75, the accessories were: Carrier for PCR Plate (613034), Trough carrier 100ml 3 positions, DiTi 2 positions & waste carrier, MJ PCR micro plate, trough 100ml (x3) and DiTi 200µl rack.

In both configurations, the capacity of samples to process is 96 with a duration of the process of 30 minutes.

For the verification of the results, 48 samples of blood which were used were subjected to prosecution for the two teams and with the two extraction protocols. After this, DNA from the samples were quantified using AluQuant™ Human DNA Quantitation System. followed by amplification with PowerPlex® 16 BIO. The amplified products was run in a gel of 5 % Long Ranger® Polyacrylamide Gel of CAMBREX and read in the FMBIO® II of Hitachi.

The samples extracted with DNA IQ™ starting from a disc of FTA® paper, were positive for the 16 analyzed loci. These results, allow us to offer dependability for the use of the totally automated systems in robotics platform RSP 150 and Miniprep 75 of TECAN. These systems would offer laboratories an alternative of quick and reliable extraction to carry out their reactions of PCR.

### References

1. DNA IQ™ System Database Protocol Technical Bulletin #TB297
2. FTA® Protocols: Collect, Transport, And File Access Nucleic Acids... .All at Room Temperature. Whatman
3. AluQuant™ Human DNA Quantitation System Technical Bulletin #TB291
4. Gemini For MiniPrep Manual Software V3.33