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When You Buy a Kit with Defective Protocol: Should You Replace it or Use Correct Methodology as Described by Manufacturer?

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When a researcher like me buys a biological kit and waits for its receipt for months from abroad, then tries to get the benefit of it and do not find any positive result, surely writes to the related company technical service and expects to be guided for a good consequence. This was my story when I bought NucleoSpin Plasma XS for extraction circulating DNA from plasma [1] last year, 2016.

We had a problem, when we went through the whole steps of the protocol, measured the Optical Density (OD) and arranged for Real-Time PCR, we got no signal and no peak which meant to us there was no DNA in the extract. Therefore, I asked the company to guide me how to work with the kit to get a practically good result of DNA recovery. The technical service advised us; due the DNA content of plasma is highly variable between patients, to use a spike DNA with our samples to check the preparation efficiency. The highly variable DNA content makes it impossible to say if the preparation worked well or not, they added. Moreover, they said that with a known amount of spiked DNA, we could clearly correlate the input versus the yield of our DNA extraction. But, we were observing the ODs but no signal in Real Time with primers. We had not such a spike for comparison so, we thought, it might work if we could reduce the first centrifugation after adding Lysis buffer, to keep more nucleic acids in the column and to increase the centrifugation force when Eluting the sample to empty the column of DNA materials. Moreover, warming up the elution buffer before its usage for more DNA recovery was another suggestion.

After, several modifications to the protocol steps, we could reach to an appropriate result and high yield of circulating cell-free DNA (ccfDNA) extract. Of course, one kit was sacrificed for this achievement.

We decided to publish our success for the benefit of our colleagues all over the world who are planning to use the same kit, less expensive and high purity but through our suggested protocol in the published article [2].

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