

Improved Sample Preparation for Molecular Diagnostics Cuts Time and Cost



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CEOCFO: Mr. Hagedorn, would you tell us about Life Magnetics?

Mr. Hagedorn: Life Magnetics sells sample preparation kits for life science. The first task, which requires 80% of the time from laboratory workers or medical technicians doing life science testing, is preparing the sample which means taking the raw biological sample and extracting just what you are looking for. Biological things are very complicated and finding only the material you want to test for is your first challenge.

CEOCFO: What do you understand at Life Magnetics that allows you to offer a better product?

Mr. Hagedorn: We provide a kit specifically for RNA isolation; for example, viruses are RNA. If you need to test for HIV or Zika you need to do an RNA test. Traditionally one of the difficult parts of doing RNA testing is that you need these expensive reagents to clean up the RNA sample. Our kits are a carbon which is highly selective for RNA. This allows us to extract RNA without DNA contamination, which makes it easier to do this type of testing.

CEOCFO: Have different materials similar to this carbon, been tried before?

Mr. Hagedorn: As far as we know they have not. The typical materials that they use are based on silica, but silica is not able to differentiate between RNA and DNA. The carbon material that we have invented can distinguish. As far as we know, no one else uses a carbon based extraction bead for RNA separation.

CEOCFO: What gave you the idea that carbon base would work?

Mr. Hagedorn: It was a publication in 2002 in Nature that they found a single strand of nucleic acid would bind to carbon. We knew it would bind but the trick was getting it to come off when you want it to. So it is being able to control that binding and release. Therefore, we worked for a while on engineering carbon that would be able to bind and then release from the carbon surface.

CEOCFO: Is the medical community aware and onboard or skeptical?

Mr. Hagedorn: Our first target customers are actually professors at universities because they are better early adopters. They will get excited about this kind of technology for doing life science research. After we have established the base the research community then we can target more diagnostic testing in hospitals. Right now we are selling our product to life science researchers.

CEOCFO: What has been the response by current users?

Mr. Hagedorn: The response is good. It is much easier and much more reliable. The reliability is what they have been most excited about and the fact that between sample and sample, they only have a 1% to 2% error on the amount of RNA that they get, and also they are saving money on the DNA clean up.