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Young Plasma Transfer Now Starting Clinical Trials Following Animal Studies Demonstrating Restored Learning and Memory

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CEOCFO: ***Mr. McCracken, what is the idea behind Alkahest?***
Mr. McCracken: Alkahest was actually established to continue the work of Professor Tony Wyss-Coray at Stanford University. Tony had done something that at one level was quiet simple, but at a deeper level was quite elegant. Using several techniques he took plasma from young mice and transferred it into older mice. He showed that when he did that, he could enhance learning and memory in several well established models of learning and memory in mice. He could also show corresponding changes in the proteins that circulate in the bodies of these animals, and he could show structural changes in the brain such as increased neurogenesis and synaptic activity that are associated with enhanced learning and memory. These results suggest a rejuvenating effect of young plasma when administered to older animals. He also did similar experiments transferring plasma from older animals to young animals, and saw the opposite effects.

CEOCFO: ***Where does Alkahest come in? Would you tell us about the technology you are developing today?***
Mr. McCracken: Alkahest was established to continue Professor Wyss-Coray's work, and to determine if it is possible to reproduce his observations from animal experiments in humans. Our scientific founder demonstrated that he could enhance learning and memory in aged mice, which you may or may not find interesting; but if you could do that in elderly humans with neurodegenerative diseases, that would be very interesting. In fact, on the Alzheimer's Association website, they suggest that if you could delay the disabling symptoms of Alzheimer's disease by 5 years, you could reduce the incidence of the disease by nearly 50%. That would have an enormous socioeconomic impact and it would be hugely important to patients with Alzheimer's disease, their care-givers and their families. That is the mission that we would like to go after.

At Alkahest we have initiated a long process to first demonstrate the safety of infusions of young plasma from healthy donors, and ultimately to demonstrate efficacy in patients with Alzheimer's Disease. If we can do that, then step two is to identify fractions of young plasma that have enhanced activity and or safety over whole plasma. Then lastly to identify individual molecules in plasma that might be reproduced synthetically or recombinately in an unlimited supply, in order to treat patients with Alzheimer's and other age related conditions.

CEOCFO: ***Would you explain the need for synthetically reproducing plasma?***
Mr. McCracken: We are not actually trying to produce "synthetic plasma". Plasma is now readily available, but it would not be available in an unlimited manner or to treat all the patients with Alzheimer's Disease who might benefit from such a treatment. That is why we are trying to evolve from whole plasma to fractions of plasma with enhanced activity as well and practical and ethical benefits over whole plasma. Then ultimately to identify and produce individual molecules that may be

first identified in plasma, but that can be reproduced synthetically or recombinantly in an unlimited supply. It's a long process, but we are trying to do it ethically, and by adhering to very rigorous scientific standards.

CEOCFO: ***Are there concerns with patients letting you use plasma from someone else?***
Mr. McCracken: There are well established methods in use today to protect the blood supply, so for a variety of reasons the use of plasma, as well as products produced from plasma, is widely accepted. There are well established methods approved by the regulatory agencies that are in place to ensure the safe use of plasma, and to make sure that infectious diseases are not transmitted.

CEOCFO: ***Would you tell us about the team at Alkahest, such as your newly appointed chief medical officer?***
Mr. McCracken: Karoly Nikolich is our Chief Executive Officer and co-founder along with Tony Wyss-Coray who remains a professor at Stanford University. Karoly is a neuroscientist, he lead the CNS research activities at Genentech, then left Genentech and established several small companies until he decided the time was right to build a company based on the work done by Tony at Stanford. Steven Braithwaite is our Chief Scientific Officer, and he is also a neuroscientist with a long career in small biotechnology companies, as well as large pharmaceutical companies. Sam Jackson just joined us as Chief Medical Officer, and he is a physician who has worked in small and large biotechnology companies, including Genentech, Amgen and more recently Dynavax.

CEOCFO: ***What has been the interest from the medical and investment community so far or is it too early?***
Mr. McCracken: There has been tremendous interest from the general public, the medical community and from the scientific community, and there are a couple of reasons for that. One is that although our underlying science is quite complex, at a superficial level everyone can understand or relate to a concept where plasma from young animals can have a rejuvenating effect on older animals. Everyone gets that. The other reason is we may not know if we are going to get diabetes or cancer, or some other disease, but we all know that we are going to get older; we certainly hope to, and age is the dominant risk factor for all of the neurodegenerative diseases and so many other diseases. Therefore, people can understand and appreciate in a personal way the need for better treatments for age related diseases, as well as the general concept. Along those lines, in developed countries we are living longer, as we have better treatments for cardiovascular disease, infectious disease and cancer, but in the last decade of our lives we are not necessarily living better. Alkahest's vision is to extend the period of healthy living or your "health-span" to be more commensurate with your life-span.

CEOCFO: ***What is happening today? Where are you in the process?***
Mr. McCracken: Our first clinical study was done with plasma that was collected from young volunteers. We have completed the in-life portion of that relatively small study which was intended to demonstrate that the use of young plasma in patients with mild to moderate Alzheimer's disease is safe. We have not unblinded the data yet and we do not expect to see any dramatic results -which would be wonderful- but the study was small and not powered to show efficacy. Our initial study also utilized a relatively low dose, in a manner that is constant with all drug development, where you start with low doses, demonstrate safety and then increase the dose or frequency of treatment, hoping to see a signal of efficacy. We have started that process. In laboratory experiments we have identified fractions of plasma that have enhanced activity over whole plasma, so we are very excited about that step. All of our clinical trials will as quickly as possible evolve to plasma fractions, as opposed to whole plasma for a number of reasons. We have also identified about 250 proteins that either increase or decrease substantially in ageing and age related conditions. We are studying each of those proteins to understand their biological function to determine which ones are potential targets for discovery of small molecules, antibodies or more traditional therapeutic agents.

CEOCFO: ***Are you seeking funding, investments or partnerships?***
Mr. McCracken: We are not actively seeking funding, partnerships or investments right now. We are well funded at this time. We have a collaboration with Grifols, which is one of the largest blood products companies. They are funding a great deal of our work with plasma and plasma fractions. At some point we will be looking for additional funding, but we are first trying to complete some experiments and to advance our science a little further before we consider additional investments.

CEOCFO: ***Have other people looked at this approach? Is there much competing research?***
Mr. McCracken: I am not aware of anyone who is doing exactly what we are doing. There are other academic groups that are interested at looking at young plasma, plasma transfer and biological activities. However, I am not aware of any other company that is doing it in the same way that we are. As far as pharmaceutical companies, there are many companies

that are interested in neurodegenerative diseases, and we have spoken to them and they have expressed an interest in what we are doing.

CEOCFO: ***There is a great deal of interest and activity in neurodegenerative disease and Alzheimer's. Why pay attention to Alkahest?***
Mr. McCracken: There are a couple of reasons. One is that we have an unbiased approach to looking at new ways to intervene in serious diseases. Many of the approaches that have been taken to intervene in neurodegenerative diseases have been based on a single disease hypotheses or a single target or mechanism, but those have largely been unsuccessful, so a new approach is important. We tend to focus on mammalian biology, not on model systems. Lastly, our work has been published in some of the best peer reviewed scientific journals, so we are trying to adhere to the highest standards of scientific investigation and peer review.