UPDATE: AVXS-201 Gene Therapy for Rett Status

状态更新：Rett 的 AVXS-201 基因疗法

by Randy Carpenter, MD | October 31, 2018

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The entire Rett community celebrated on May 3 of this year when AveXis formally announced plans to submit the IND application for AVXS-201 for Rett syndrome in late 2018/early 2019. We all then held our breath on May 15 when Novartis purchased AveXis for $8.7 billion, wondering whether Novartis would prioritize the Rett gene therapy program within their extensive therapeutic pipeline. Since the acquisition, RSRT has had numerous conversations with the senior management of Novartis (including the CEO of Novartis) and AveXis and we are happy to report that Novartis is committed to this timeline and it remains achievable. Pending FDA approval, a clinical trial should start early next year.

今年 5 月 3 日，整个 Rett 社区都在庆祝一个好消息：AveXis 公司正式宣布将于 2018 年底/2019 年初提交适用于 Rett 综合症的基因疗法药物 AVXS-201 的 IND（研究中的新药）申请。但随着 5 月 15 日诺华制药(Novartis)斥资 87 亿美元收购 AveXis，我们在这一刻都屏住了呼吸，不知道诺华是否会在其大而全的各条药物管线研发中调整 Rett 基因药物项目的优先度。自收购以来，RSRT 与诺华和 AveXis 的高管们(包括诺华的 CEO)进行了多次沟通。我们很高兴地告诉大家：诺华承诺依然会按照以前 AveXis 的时间表推进项目，而且计划也是依然可以实现的。当前项目还在等待 FDA 批准，预计明年年初临床试验应能开始。

Specifically, in the October 18, 2018 Investor Presentation, Novartis shared their planned filings for regulatory approval for products currently in development. This table formally confirms their intent to develop AVXS-201 for the treatment of Rett Syndrome. This means that Novartis currently predicts it will take at least three years to complete the trials necessary to support FDA approval of the gene therapy product. Of course commercialization will only happen if the gene therapy delivers dramatic results.

特别值得一提的是：在 2018 年 10 月 18 日的投资者大会上，诺华公布了它们计划向监管部门提交的目前正在研发产品的申请清单（见下表）。该清单正式确认了他们将继续研发治疗 Rett 综合症的 AVXS-201。同时，这张表也意味着诺华目前预计 AVXS-201 还至少需要三年时间才能完成必要的临床试验，以满足 FDA 批准的需求。当然，只有当基因疗法带来显著的疗效，诺华才会将其真正产品化。

Although progress may seem slow for anyone who loves a person with Rett Syndrome, there is a huge

amount of work and great progress going on behind the scenes. We are fortunate that AveXis and Novartis are able to leverage the insights gained from developing AVXS-101 for spinal muscular atrophy to inform and accelerate progress in developing AVXS-201. The required animal safety studies have been replicated in compliance with FDA standards and study reports are being compiled for submission to FDA. The clinical team has been working collaboratively with expert physicians, scientists and RSRT to optimize the design of the first clinical trial. In parallel, the manufacturing team has been optimizing the manufacturing processes and quality assessments to meet FDA standards.
尽管对于任何一个深爱着某位 Rett 综合症患者的人来说，上面的进展看起来有点慢，但是在这后面实际上是有大量的工作和巨大的进展的。我们很幸运，AveXis 和诺华可以利用在研发用于脊髓性肌萎缩症(SMA)的 AVXS-101 基因疗法药物时获得的经验来帮助并加快 AVXS-201 的研发。临床试验前所需的动物安全研究已经按照 FDA 的标准进行了重复，研究报告也正在编制中并准备提交给 FDA。临床团队一直与医学专家、科学家和 RSRT 合作，以优化首个临床试验的设计。与此同时，生产团队也一直在优化生产流程和质量保证体系以符合 FDA 的标准。

Gene therapy is a new therapeutic approach where knowledge and expertise are rapidly increasing. There is much to learn that can only be achieved by advancing gene therapies into human clinical trials. At this point in time, it is not possible to predict the therapeutic potential of gene therapy for individuals with Rett Syndrome. However, safety of trial participants is the primary concern for the first study of any therapeutic in humans. The FDA currently has over 700 active investigational new drug applications for gene therapy (Collins), and therefore has a large body of both animal and human data to guide their safety evaluation. I have confidence that FDA will assure the clinical trial design appropriately balances the risk and benefit for trial participants.
基因疗法是一种全新的治疗方法，其相关的基础知识和专业知识正在迅速增长。对于基因疗法来说，很多东西如果不进入到人体临床试验阶段，是无法知道更无法取得研究成果的。目前，我们还不能预测基因疗法对 Rett 综合症患者的治疗潜力。不过，临床试验参与者的安全性是评价任何一个在人体上应用的疗法研究的首要关注点。目前，FDA 已经有超过 700 件基于基因疗法的 IND 申请，也因此有大量的动物和人体的临床数据来指导其对临床试验安全性进行评估。我相信 FDA 可以保证临床试验设计能平衡好试验参与者的风险和收益。

Exciting times ahead.
激动人心的时刻就在前方。