



Dear members of the Huntington's community,

Today is an exciting day for the Huntington's disease community. The Phase 1/2a Study of IONIS-HTT<sub>Rx</sub>, the first therapy in clinical development designed to target the underlying cause of HD, has been completed. We are pleased to share an update on the status of the IONIS-HTT<sub>Rx</sub> program and its future.

Roche has exercised its option to license IONIS-HTT<sub>Rx</sub> following conclusion of the Phase 1/2a randomized, placebo-controlled, dose escalation study of IONIS-HTT<sub>Rx</sub> in people with Huntington's disease. In this study, reductions of the toxic mutant huntingtin protein (mHTT) were observed in study participants treated with IONIS-HTT<sub>Rx</sub>, with the largest reductions in those who received the highest doses of IONIS-HTT<sub>Rx</sub>. In addition, the safety and tolerability profile of IONIS-HTT<sub>Rx</sub> observed in this study supports continued development of the drug. Ionis and Roche plan to present results from this study at medical conferences in the first half of 2018 and plan to submit the study results for publication in a peer-reviewed medical journal.

As we look to the future we want to share additional perspective on where we are headed in the coming months. Since 2013, when Ionis and Roche started their alliance, the teams in both companies have collaborated closely in advancing the clinical development of IONIS-HTT<sub>Rx</sub>. Going forward, Roche will now become solely responsible for the further clinical development including trials to demonstrate the safety and efficacy of IONIS-HTT<sub>Rx</sub>.

Roche's specific expertise in developing medicines to treat neurodegenerative brain diseases, along with their experience in bringing medicines to patients, has been instrumental in the success thus far and will be valuable as IONIS-HTT<sub>Rx</sub> enters later-stage clinical development.

The next step for this program will be to conduct a safety and efficacy study to investigate if decreasing mutant huntingtin protein with IONIS-HTT<sub>Rx</sub> can benefit people with Huntington's disease. Future studies for the program will be conducted globally, including in the U.S. Roche will announce details about future studies, including eligibility criteria and planned start dates, as this information becomes available. All relevant information on upcoming studies will also be posted on [HDTrialFinder.org](http://HDTrialFinder.org) and [ClinicalTrials.gov](http://ClinicalTrials.gov).

We thank you for your contributions to these ongoing efforts. We could not have reached this critical milestone without the support and dedication of the clinical study participants, their families, the study doctors who provide exceptional care for these individuals, and the entire HD community who inspire us to work diligently each and every day toward an effective treatment for HD.

Sincerely,  
Your Ionis & Roche Team

## **FAQs**

### **What is IONIS-HTT<sub>Rx</sub>?**

IONIS-HTT<sub>Rx</sub> is an investigational drug being developed for the potential treatment of HD. IONIS-HTT<sub>Rx</sub> offers a unique mechanism to moderate the underlying genetic cause of HD by decreasing the production of the toxic huntingtin protein. IONIS-HTT<sub>Rx</sub> is an antisense drug designed to reduce the amount of huntingtin RNA in the brain, and with less RNA “message” available, less huntingtin protein is made. IONIS-HTT<sub>Rx</sub> is designed to reduce the production of all forms of the huntingtin (HTT) protein, which in its mutated variant (mHTT) is responsible for HD. As such, IONIS-HTT<sub>Rx</sub> offers a unique approach to treat people with Huntington’s disease, irrespective of their individual HTT mutation.

### **What was the Phase 1/2a trial designed to do?**

The Phase 1/2a study was a randomized placebo-controlled Phase 1/2a clinical study to evaluate the safety and tolerability of increasing doses of IONIS-HTT<sub>Rx</sub> in people with early stage Huntington’s disease. Phase 1/2a study participants who are eligible for the open-label extension (OLE) study will have the opportunity to continue on drug in this trial.

### **What are the plans for further clinical development?**

The next step for this program will be to conduct a safety and efficacy study to investigate if decreasing mutant huntingtin protein with IONIS-HTT<sub>Rx</sub> can benefit people with Huntington’s disease. Future studies for the program will be conducted globally, including the U.S. Roche will announce details about studies, including eligibility criteria and planned start dates, as this information becomes available. All relevant information on upcoming studies will also be posted on [HDTrialFinder.org](http://HDTrialFinder.org) and [ClinicalTrials.gov](http://ClinicalTrials.gov).