JDRF MISSION MESSAGES Special Edition

OUR VISION IS TO CREATE A WORLD WITHOUT TYPE 1 DIABETES.

JDRF research and advocacy drives transformational T1D therapies that hold significant promise for turning Type One into Type None

JDRF's strategic research plan encompasses multiple therapeutic areas designed to deliver a sustained stream of new, life-changing therapies

JDRF is impacting every stage of the discovery and development pipeline, expediting scientific progress and speeding delivery of novel therapies to people with T1D

The path from Type One to Type None is a stream of therapies that steadily remove the daily burden and complications of T1D on the way to a cure and universal prevention

FY2014 JDRF TOP 10 RESEARCH ADVANCES

PORTFOLIO

Broadening T1D R&D Funding Sources

- Enhancing research across the JDRF portfolio of programs
- Special Diabetes Program renewed ($150M) with JDRF Advocacy efforts
- New translational partnership with Pfizer Centers for Therapeutic Innovation
- Formation of T1D Innovations to create T1D focused companies

ENCAPSULATION

Progress on ViaCyte's Novel Encapsulated Cell Therapy

- Rapidly approaching key milestone with start of first human test this year
- Product made possible by previous JDRF-funded stem cell research
- JDRF support of ViaCyte is accelerating development progress of this innovative product

RESTORATION

Potential Drugs for Beta Cell Regeneration Discovered

- JDRF partnership with Genomics Institute of the Novartis Research Foundation discovers potential disease altering therapies
- Novel drugs found that stimulate beta cell proliferation in lab
- Presence of residual beta cells originally discovered in JDRF-funded Medalist study get new confirmation

Drug for Reducing Beta Cell Stress Shows Promise in Halting T1D in Animals

- JDRF-funded study breaks new ground focused on boosting beta cell performance by reducing cell stress
- Shows that beta cell preservation is possible even in the face of T1D immune attack
- Drug could move quickly into human study in T1D

COMPLICATIONS

Hope for T1D Kidney Health in Gout Drug

- Kidney complications affect one-third of people living with T1D
- JDRF funded a feasibility study of allopurinol in those with T1D and early signs of kidney damage
- SDP is now funding larger study that could lead to a therapy to slow or stop kidney failure in T1D

ARTIFICIAL PANCREAS

Accelerating Development Progress of Artificial Pancreas Systems

- FDA approves low glucose suspend product
- Predictive low glucose systems proven valuable in at-home setting; product under review in Europe
- Unsupervised overnight system use improves control and quality of life
- Multi-center, at-home treat-to-range study nearing start

Inhaled Insulin Shows Value in Artificial Pancreas Study

- Early artificial pancreas systems will require bolus insulin dosing to cover mealtime needs
- Combining a partially automated system with a rapid acting insulin at meals provides a near-term solution based on JDRF-funded study
- FDA committee recently voted in favor of inhaled insulin (Afrezza)

SMART INSULIN

Merck Smart Insulin Project Advancing into Clinical Trials

- Merck plans to begin human testing of groundbreaking project – a major milestone
- Technology originally developed at SmartCells with key financial and technical support from JDRF
- NIH Special Diabetes Program also provided early funding—another example of JDRF advocacy impact

PREVENTION

Redefining an Earlier Diagnosis of T1D

- Autoantibody markers of T1D can predict future insulin dependence with a high degree of certainty based on JDRF-funded research
- Waiting for insulin dependence misses opportunities for potential therapies to delay or slow T1D progress
- JDRF leadership is creating consensus around redefining T1D

Progress on Causes of T1D Provides Path to Potential Prevention Strategies

- JDRF research is helping narrow the focus of key factors causing T1D to guide development of potential prevention therapies
- Bacterial interactions within the gut may influence T1D – building on the microbiome theory
- JDRF-funded study links specific virus to T1D

Portfolio

Broadening T1D R&D Funding Sources

Key Messages

- Some of JDRF's Research and Advocacy efforts are designed to change some of the basic ways T1D research gets done – JDRF is the only organization with the credibility and expertise to achieve such complex goals
- JDRF Advocacy has consistently and successfully lobbied Congress for renewal of the Special Diabetes Program bringing $150M per year to support JDRF's research agenda
- JDRF is the only T1D-focused organization creating innovative collaborations with companies to speed the translation of promising ideas from the lab to potential products in the clinic

Last year JDRF took a number of significant actions to broaden the resources available in the T1D research and development space – three of them are highlighted here. Each of these will help speed progress towards our research goals across our portfolio of research objectives to develop and deliver novel T1D therapies to patients.

In March, the U.S. Congress approved legislation for a one-year extension of the Special Diabetes Program (SDP)—an initiative that accounts for roughly one-third of all federally funded T1D research in the US. Driven in large part because of JDRF's efforts, the extension provides $150 million of SDP funding for the National Institutes of Health.

Last November, JDRF announced a new partnership with Pfizer's Centers for Therapeutic Innovation (CTI) to support the development and translation of promising T1D research. The collaboration will initially focus on co-funding projects in the fields of immune tolerance, diabetic nephropathy and beta cell health. Capitalizing on JDRF's expertise in the field of T1D research and CTI's network of academic medical centers, the organizations will work together to identify and drive promising research projects. By harnessing resources and expertise from both organizations, we can speed the development and delivery of better treatments that could improve millions of lives – a vision shared by JDRF and CTI.

Last October, JDRF announced the launch of T1D Innovations, a novel venture-creating entity designed to accelerate the development of innovative T1D therapies. Together with PureTech, a technology development company, T1D Innovations will create and fund high-impact companies developing innovative T1D-related therapies, enabling them to cross the well-known biomedical "valley of death" – the notorious gap that often prevents promising biomedical discoveries from being translated into patient-saving products.

Encapsulation

Progress on ViaCyte's Novel Encapsulated Cell Therapy

Key Messages

- A revolutionary cell replacement therapy is moving into the clinical study phase of development – a major milestone
- JDRF enabled this technology with our support of basic stem cell research over past years
- JDRF support of companies with a T1D focus like ViaCyte allows them to develop innovative T1D therapies

In February, JDRF announced it is providing additional milestone-based funding for the continued development of ViaCyte's VC-01™ encapsulated cell therapy product candidate for the treatment of T1D. JDRF will fund up to $7 million to help ensure a rapid transition of the project into the clinical phase of development once ViaCyte's investigational new drug application (IND) is filed with and accepted by the U.S. Food and Drug Administration (FDA). This commitment builds on JDRF's previous support of ViaCyte's preclinical development program focused on collecting the necessary animal safety and efficacy data to support introduction into clinical testing.

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(cont.) Progress on ViaCyte's Novel Encapsulated Cell Therapy

ViaCyte's innovative VC-01 product candidate is a cell replacement therapy that could transform the way individuals with T1D manage their disease by supplying an alternative source of insulin-producing cells with the potential to free individuals from a dependence on external insulin use. The product candidate uses pancreatic progenitor cells derived from a stem cell line, called PEC-01™ cells, which are encapsulated inside a semi-permeable device called the Encaptra® drug delivery system. Both the cells and the device are ViaCyte proprietary technologies. The resulting VC-01 product candidate is designed to be inserted under the skin where, after maturation of the PEC-01 cells into islet-like structures including beta cells, they are expected to produce insulin and other pancreatic hormones in response to blood glucose levels, similar in manner to that of normal islets in the pancreas.

ViaCyte is planning to file an IND with the FDA soon to support initiation of clinical evaluation of the VC-01 product candidate before the end of 2014. The primary purpose of the first human study will be to establish that the product candidate is safe and well tolerated; however, efficacy will also be assessed. After initial safety is demonstrated in the first group of participants, ViaCyte plans to expand the trial to multiple clinical sites in the United States and Canada.

Restoration

Potential Drugs for Beta Cell Regeneration Discovered

Key Messages

- Beta cell regeneration is a useful strategy in T1D only if a person has some remaining beta cells that can proliferate – something JDRF-funded research showed several years ago and new research has confirmed
- JDRF, in collaboration with the Novartis Research Foundation, has now discovered a novel way to stimulate beta cells to begin multiplying
- Drugs that cause the desired proliferation effect have been identified and shown to work in animals and human cells in the lab; additional studies are ongoing to confirm these findings and speed progress to the next stages of development

At the April 2014 JDRF-GNF (Genomics Institute of the Novartis Research Foundation) meeting, Dr. Byran Laffitte described how GNF has the potential to identify the first disease altering therapy for T1D. He presented preclinical evidence that GNF has identified the first highly effective low molecular weight regulators of beta cell proliferation. Overall, GNF has identified five novel beta cell proliferators using this technique, two of which he discussed: GNF4156 and GNF4877. These preclinical agents have been found to robustly stimulate rat and human beta cell proliferation in islets. This leads to an expansion of human islet mass with the retention of their function. In rodents, these candidates have also been associated with an improvement in glucose tolerance. These potential drugs work by inhibiting an enzyme called DYRK1a, which is thought to play a significant role in a signaling pathway regulating cell proliferation. Studies to confirm these findings are underway. (Close Concerns, April 23, 2014)

A beta cell regeneration therapy requires the presence of some remaining beta cells in people with T1D. The JDRF-funded Medalist study several years ago first identified the presence of such residual beta cells in people with T1D for as long as 50 years after a T1D diagnosis. Now, several recently published (non-JDRF funded) reports have confirmed these findings and showed that most patients with long-duration T1D continue to secrete very low levels of natural insulin, which increase after meals (see independent work of Drs. Oram, Faustman, Greenbaum for details). This is consistent with the presence of a small number of still functional beta cells and implies that some beta cells are either escaping immune attack or undergoing some form of natural regeneration. These findings strengthen the hope for the potential for novel regeneration therapies to positively impact the course of T1D.

Drug for Reducing Beta Cell Stress Shows Promise in Halting T1D in Animals

Key Messages

- JDRF basic research helped discover the key role that beta cell stress plays in the T1D disease process opening a new therapy pathway
- JDRF-funded research has shown that relieving beta cell stress with a drug can preserve beta cells despite the autoimmune attack
- The drug in this JDRF-funded research, known as TUDCA, is approved for other uses and could move quickly into clinical testing

Although scientists are still working to determine what exactly causes T1D, one area of recent focus for JDRF-funded researchers is the role of beta cell stress in the disease process. This is the subject of a JDRF-funded study led by the Harvard School of Public Health (HSPH) published last November. The work highlights a previously unrecognized molecular pathway that contributes to the malfunction of insulin-producing pancreatic beta cells in T1D in humans and mice, and shows that a chemical intervention can help beta cells function properly and survive. In this study, Dr. Hotamisligil and his team tested the effects of tauroursodeoxycholic acid (TUDCA) in mouse models of T1D. TUDCA is a compound that occurs naturally in animal bile, and is similar to a bile acid that occurs naturally in humans. Previous studies by Dr. Hotamisligil's lab showed that cell-based stress in other tissues plays a significant role in obesity and type 2 diabetes, and that it can be corrected by compounds such as TUDCA. Those earlier findings propelled the researchers to expand their work into T1D. What they discovered was that the application of TUDCA improved beta cell stress function in mice with T1D or pre-diabetes. Beta cells not only functioned better but were more likely to survive, thus preventing the onset of T1D in the animal model tested.

The study supports one of JDRF's priority research areas, aimed at beta cell restoration. For a decade, JDRF has funded research to explore ways to maintain and restore the body's ability to produce insulin and prevent the autoimmune attack that leads to T1D. JDRF is very excited by the outcome of the pre-clinical study of TUDCA and the potential for developing and launching studies for testing the approach in people with recently diagnosed or early stages of T1D in the near future.

Artificial Pancreas

Accelerating Development Progress of Artificial Pancreas Systems

Key Messages

- Early stage artificial pancreas systems that manage low glucose levels are now marketed and under review with regulatory agencies
- JDRF research continues to demonstrate better control and better quality of life are possible by using artificial pancreas systems in various settings and with many groups of people with T1D, including children
- More sophisticated artificial pancreas systems are advancing into longer duration, real-world studies

Last September, Medtronic announced U.S. FDA approval of its MiniMed 530G with Enlite system (sold outside the United States as the Veo since 2009). JDRF applauded the FDA for its commitment to ensuring patients in the United States can access insulin pumps that can temporarily stop insulin delivery once sensor glucose levels fall below a predetermined threshold. This approval means people with T1D will have access to technologies on par with the rest of the world. Bringing new products to people with T1D through the healthcare system is why JDRF partners with T1D-focused companies. JDRF looks forward to working with researchers, regulators, and the private sector to accelerate the delivery of even more impactful improvements in technology to more effectively manage the disease. This was the first product approved under the FDA's new artificial pancreas product guidelines that JDRF helped create which were finalized in November 2012 and helped jump start what had been a long-delayed process.

Medtronic has a predictive low glucose suspend (pLGS) system under review in Europe and hopes to market it before the end of 2014; US marketing may not be far behind. This system is called the 640G by Medtronic.

In May, a JDRF-funded study led by Dr. Roman Hovorka at the University of Cambridge was published and showed that unsupervised use of an overnight treat-to-range

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(cont.) Accelerating Development Progress of Artificial Pancreas Systems

artificial pancreas system for three weeks led to improved blood-glucose control through the night—and residually through the next day too—in 16 adolescent participants with T1D, ages 12-18. The system automates insulin delivery by increasing or decreasing the insulin infusion based on monitoring of glucose levels every 12 minutes. The average nighttime blood-glucose levels of the participants remained in the target, safe range for 70 percent of the nights when the system was used, compared to 52 percent of the nights when the system was not used. Furthermore, the number of nights with hypoglycemia decreased by nearly 50 percent. Hypoglycemia, or extreme low blood sugar, is a dangerous yet common occurrence for people with T1D. The researchers concluded that unsupervised home use of the overnight artificial pancreas system in adolescents with T1D is both safe and effective. In addition to improved blood-glucose control, trial participants and their parents reported improvements in quality of life when using the system, which were outlined in a companion study. Among the benefits noted were greater peace of mind and better sleep without having to frequently monitor their blood-glucose, and more confidence in their diabetes control. Longer and more comprehensive studies could help pave the way toward bringing the first automated artificial pancreas systems to market for use overnight—when variables such as eating and exercise pose less of a challenge.

The use of artificial pancreas systems during sleep is of high interest, because overnight hypoglycemia occurs frequently in individuals with T1D and can result in loss of consciousness, seizure, or even death. Another JDRF-supported clinical study published in May tested whether in-home overnight hypoglycemia could be safely reduced by temporarily decreasing or suspending pump insulin delivery when hypoglycemia was predicted by an algorithm based on continuous glucose monitoring glucose levels. Such artificial pancreas systems are referred to as predictive low glucose suspend systems (pLGS). They represent the next level of advance over a system that simply turns off when the glucose level goes below a threshold. Turning off before hitting such a threshold is intended to avoid the hypoglycemic event. The study found that such a pLGS artificial pancreas system when used in 15–45 year olds with T1D and frequent nocturnal hypoglycemia, can substantially reduce overnight hypoglycemia without a meaningful increase in hyperglycemia and no increase in ketoacidosis. Use of a nocturnal pLGS system has the potential to not only reduce nocturnal hypoglycemia but also to reduce fear of hypoglycemia, which can be a significant deterrent to achieving blood glucose targets.

Following up on the successful out-patient tests of a treat-to-range, partially automated insulin delivery artificial pancreas systems, the JDRF Artificial Pancreas Consortium is poised to launch the next step in the evaluation process. Under the leadership of Dr. Kovatchev at the University of Virginia, the first shorter feasibility trial, followed by the longer definitive trial will test the system in a large, international, multi-site randomized study. This at-home and unsupervised study will test how successful this system is at helping people with T1D maintain ideal blood-sugar levels as they go about their normal routine. The study is scheduled to begin in the second half of 2014.

Inhaled Insulin Shows Value in Artificial Pancreas Study

Key Messages

- JDRF has a multi-pronged strategy for the development of artificial pancreas systems – something no other organization can do. This allows JDRF to drive artificial pancreas development on multiple fronts simultaneously
- One example is the concept of using a partially automated artificial pancreas system with the use of an inhaled insulin at mealtimes. This JDRF-funded study showed such a combination to be very beneficial
- The inhaled insulin product used in this study is called Afrezza and was favorably reviewed at a recent FDA advisory committee meeting. This suggests it might be marketed before long

Last September, results from a JDRF-funded study were announced by Sansum Diabetes Research Institute and JDRF. This study addresses one of the key limitations of early artificial pancreas systems – the challenge of mealtime dosing of insulin. This is because insulin delivered through the skin by a pump or injections works much slower than insulin that is made in the pancreas. Early systems will only be partially automated and require the user to dose insulin separately to cover mealtime food intake. This study is the first successful clinical research trial using a partially-automated artificial pancreas system in conjunction with ultra-rapid-acting inhaled insulin used at mealtime. This represents a groundbreaking potential advancement in the treatment of T1D. It establishes that the disease can be managed by combining automated delivery of precise amounts of insulin around the clock, based on real-time glucose measurements without the need for patient intervention coupled with the swift delivery of ultra-rapid-acting inhaled insulin during mealtimes. The artificial pancreas system and inhaled insulin work together to replicate the normal, healthy function of the human pancreas. This combination therapy has the ability to greatly improve the regulation of all day blood glucose levels. This study addresses one of the big questions in artificial pancreas research, which is, 'How do we manage meals with the near-term artificial pancreas systems?' Larger studies are needed to confirm these preliminary findings.

Smart Insulin

Merck Smart Insulin Project Advancing into Clinical Trials

Key Messages

- Merck recently announced a key milestone for their smart insulin project – it is moving into the human testing phase
- JDRF provided key financial and technical support to SmartCells who invented the technology used in the Merck product
- A smart insulin that responds to varying levels of glucose in a person's bloodstream would greatly simplify daily management of T1D

On May 6, 2014, Merck held an investor briefing and provided updates on various strategic initiatives, including its smart insulin project acquired in 2010 when it purchased SmartCells.

SmartCells—a diabetes drug-development company that received early support from JDRF— was founded in 2003 by Todd Zion, Ph.D., an MIT chemical engineer who had an idea for developing a smart insulin. While others were skeptical, JDRF saw promise in the fledgling company's concept for improving the lives of people with T1D.

With help from JDRF, SmartCells secured initial funding from the National Institutes of Health's Special Diabetes Program—a funding source available due to our advocacy efforts. Then, thanks to the support of our generous donors, JDRF provided SmartCells with a financial lifeline of support and key technical guidance that enabled its researchers to validate this exciting technology. Now, based on further animal studies conducted by Merck, a key milestone has been reached: New data support advancing the smart insulin project into clinical trials.

This is a groundbreaking smart insulin project progressing in development, and JDRF donors made it possible.

Smart insulin is a form of insulin that turns on when it's needed to lower blood sugar and off when blood sugar is at a safe level. Merck refers to its project as a glucose-responsive insulin. Smart insulin is a key research priority for JDRF.

Much remains to be learned about how long and how well each dose of Merck's smart insulin will work, and it is still years away from becoming a treatment, but this is exciting progress on one of JDRF's key research investments.

Complications

Hope for T1D Kidney Health in Gout Drug

Key Messages

- Complications of T1D remain a huge burden of the disease because of the challenges in achieving optimal blood glucose control today
- There are few options for treating T1D-related kidney disease so this remains a key priority for JDRF research
- JDRF funded a feasibility study of a drug approved for treating gout that has shown potential in slowing or stopping kidney disease
- The Special Diabetes Program is funding the larger study of this drug, showing how JDRF gets many good ideas moving and coordinates funding from other sources as needed – in this case funding resulting from JDRF Advocacy efforts

Up to one-third of people with T1D develop kidney abnormalities, and although glucose and blood pressure control has improved in the last two decades, diabetic kidney disease is still an all-too-common serious complication of T1D. As part of its research strategy aimed at preventing and treating T1D complications, JDRF is funding critical research into possible ways to prevent or reduce kidney problems for people with the disease.

To address the major problem of kidney disease in people with diabetes, Dr. Alessandro Doria at the Joslin Diabetes Center formed a network of scientists from eight research centers around the world, known as PERL (Preventing Early Renal Function Loss in Diabetes). The PERL Consortium

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(cont.) Hope for T1D Kidney Health in Gout Drug

has designed a large clinical trial targeting T1D patients with signs of initial kidney disease, to examine the potential benefit of allopurinol—a nearly 50-year-old drug, currently used to treat gout, that lowers uric acid, high levels of which correlate to progression of kidney disease. JDRF funded an earlier feasibility study of allopurinol that has laid the foundation for this Phase 3 pivotal trial, funded by the National Institutes of Health through the Special Diabetes Program, a top JDRF Advocacy priority, with continued support and involvement from JDRF scientists.

Should the PERL study demonstrate allopurinol's effectiveness in slowing or stopping the loss of kidney function in people with T1D, it could be a major step toward preventing or delaying kidney failure in those who show early signs of kidney damage. Given the availability, low cost, and safety of the drug, a tangible treatment for people with T1D could follow in the study's footsteps.

Prevention

Redefining an Earlier Diagnosis of T1D

Key Messages

- JDRF-funded research into the earliest stages of T1D confirms a very strong link between the presence of multiple autoantibodies and a subsequent diagnosis of T1D and insulin dependence
- By agreeing that the disease really starts before a person becomes insulin dependent, prevention options become more relevant
- JDRF leadership is developing a scientific consensus around this concept to better inform the potential for prevention therapies research

For years, scientists have been studying the progression of T1D before symptoms manifest in order to explore the possibilities of even earlier intervention, and they now know more than ever before. One breakthrough in our understanding of the disease came from a decade-long study funded in part by JDRF, published in June 2013 in The Journal of the American Medical Association. The study followed children from infancy to determine the presence of islet autoantibodies, which indicate the activation of the autoimmune attack on insulin-producing beta cells in the pancreas that leads to T1D. The study revealed that the vast majority of children who had two or more islet autoantibodies invariably progressed to develop symptomatic T1D (i.e., required insulin).

Based on this JDRF-funded research and other information, JDRF is leading a discussion in the diabetes field about what defines a diagnosis of T1D. At a scientific meeting in March, JDRF's chief scientific officer, Richard Insel, M.D., reviewed the evidence of the need to change the diagnostic criteria of T1D to recognize the fact that disease onset begins before its symptoms. Asymptomatic stages of T1D may provide a window of opportunity in which we may be able to prevent symptomatic T1D as the goal of this effort. Diagnosing a person with T1D during the asymptomatic phase of the disease would have a host of implications for research, development, and regulatory guidelines for clinical trials, as well as awareness of the disease. Through consensus building among all the relevant organizations, it may be possible to include new criteria in clinical guidelines in the not-too-distant future. Such a change could increase the focus on developing potential prevention therapies to change the course of the disease before symptomatic onset.

Progress on Causes of T1D Provides Path to Potential Prevention Strategies

Key Messages

- Prevention of T1D remains a key focus for JDRF research because it is the only way to stop the rising trend of new diagnoses and ultimately will be better than a cure if people don't ever get the disease
- Prevention strategies for T1D require we focus on the most important causes of the disease
- JDRF-funded research has strengthened the connections between T1D and aspects of the gut micro-organisms (the microbiome or hygiene hypothesis) and with certain viruses – both of which could point towards development of prevention therapies

Type 1 diabetes (T1D) scientists have believed for some time that communities of bacterial microorganisms in the gut, which make up the microbiome, are in some way related to immune system defects and the autoimmune response that leads to T1D. Previous research has hypothesized that the diversity or abundance of specific bacteria within the microbiome plays a critical role in shaping our immune system. However, a new JDRF-funded study published in March paints a different picture that may give researchers an eye-opening foundation from which to base future studies—and from which we may begin to better understand the relationship between autoimmunity and the gut. Researchers from the Institute of Diabetes Research, Helmholtz Zentrum Munchen, Germany and the University of Florida, Gainesville studied the gut microbiomes of 44 children from infancy to age three (from the JDRF-funded BABYDIET study). They found that in the group of children with anti-islet autoantibodies, who subsequently developed T1D, certain bacteria within the gut microbiome were for some reason more physically isolated from other bacterial species. These bacteria did not display the normal symbiotic interactions that appear to occur in those without anti-islet autoantibodies, and this uncommunicative behavior occurred regardless of bacterial abundance or diversity within the gut microbiome. Researchers believe that the lack of sufficient bacterial integration and subsequent breakdown in communication within the gut microbiome may combine with certain environmental triggers to contribute to the pathogenesis of T1D. Such triggers could include complex interactions between factors such as method of birth, genetics, and nutrition of both mother and baby—all of which are known to affect the gut microbiome. Future research is now needed to include study participants without a familial predisposition to T1D, to explore the possible causes of the interesting bacterial interplay revealed in this latest study, and to discover how these findings are related to the immune system defects and autoimmunity associated with T1D. These next stages in research could help lead to novel prevention therapies for people at risk of developing the disease.

Enteroviruses have been connected to T1D in various studies. A new JDRF-funded study published in February 2014 evaluated the association between specific types of enteroviruses and T1D by measuring type specific antibodies against the group B coxsackieviruses (CVBs, a type of enterovirus), which have been linked to T1D in previous surveys. Altogether, 249 children with newly diagnosed T1D and 249 control children matched according to sampling time, sex, age, and country were recruited in Finland, Sweden, England, France, and Greece between 2001 and 2005 (mean age 9 years). Antibodies against CVB1 (a specific coxsackieviruses) were more frequent among diabetic children than among control children, whereas other CVB types did not differ between the groups. CVB1-associated risk was not related to T1D genotype, age, or sex. The results support previous studies that suggested an association between CVBs and T1D, highlighting the possible role of CVB1 as a T1D causing virus type. If a causal link can be confirmed, vaccines against these enteroviruses could be developed as a prevention therapy.