

## **The TEDDY Study Group**

**Colorado Clinical Center:** Marian Rewers, M.D., Ph.D., PI<sup>1,4,6,9,10</sup>, Aaron Barbour, Kimberly Bautista<sup>11</sup>, Judith Baxter<sup>8,9,11</sup>, Daniel Felipe-Morales, Brigitte I. Frohnert, M.D.<sup>2,13</sup>, Marisa Stahl, M.D.<sup>12</sup>, Patricia Gesualdo<sup>2,6,11,13</sup>, Michelle Hoffman<sup>11,12,13</sup>, Rachel Karban<sup>11</sup>, Edwin Liu, M.D.<sup>12</sup>, Alondra Munoz, Jill Norris, Ph.D.<sup>2,3,11</sup>, Holly O'Donnell, Ph.D.<sup>8</sup>, Stesha Peacock, Hanan Shorrosh, Andrea Steck, M.D.<sup>3,13</sup>, Megan Stern<sup>11</sup>, Kathleen Waugh<sup>6,7,11</sup>. University of Colorado, Anschutz Medical Campus, Barbara Davis Center for Childhood Diabetes, Aurora, CO, USA.

**Finland Clinical Center:** Jorma Toppari, M.D., Ph.D., PI<sup>¥^1,4,10,13</sup>, Olli G. Simell, M.D., Ph.D., Annika Adamsson, Ph.D.<sup>^11</sup>, Suvi Ahonen<sup>\*±§</sup>, Mari Åkerlund<sup>\*±§</sup>, Sirpa Anttila<sup>μx</sup>, Leena Hakola<sup>\*±</sup>, Anne Hekkala, M.D.<sup>μx</sup>, Tiia Honkanen<sup>μx</sup>, Heikki Hyöty, M.D., Ph.D.<sup>\*±6</sup>, Jorma Ilonen, M.D., Ph.D.<sup>¥3</sup>, Sanna Jokipuu<sup>^</sup>, Taru Karjalainen<sup>μx</sup>, Leena Karlsson<sup>^</sup>, Jukka Kero M.D., Ph.D.<sup>¥^3,13</sup>, Jaakko J. Koskeniemi M.D., Ph.D.<sup>¥^</sup>, Miia Kähönen<sup>μx11,13</sup>, Mikael Knip, M.D., Ph.D.<sup>\*±</sup>, Minna-Liisa Koivikko<sup>μx</sup>, Katja Kokkonen<sup>\*±</sup>, Merja Koskinen<sup>\*±</sup>, Mirva Koreasalo<sup>\*±§2</sup>, Kalle Kurppa, M.D., Ph.D.<sup>\*±12</sup>, Salla Kuusela, M.D.<sup>μx</sup>, Jutta Laiho, Ph.D.<sup>\*6</sup>, Tiina Latva-aho<sup>μx</sup>, Laura Leppänen<sup>^</sup>, Katri Lindfors, Ph.D.<sup>\*12</sup>, Maria Lönnrot, M.D., Ph.D.<sup>\*±6</sup>, Elina Mäntymäki<sup>^</sup>, Markus Mattila<sup>\*±</sup>, Maija Miettinen<sup>§2</sup>, Teija Mykkänen<sup>μx</sup>, Tiina Niininen<sup>\*±11</sup>, Sari Niinistö<sup>§2</sup>, Sami Oikarinen, Ph.D.<sup>\*±6</sup>, Hanna-Leena Oinas<sup>\*±</sup>, Paula Ollikainen<sup>μx</sup>, Zhian Othmani<sup>¥</sup>, Aino Pitkänen<sup>\*±</sup>, Sirpa Pohjola<sup>μx</sup>, Jenna Rautanen<sup>±§</sup>, Anne Riikonen<sup>\*±§2</sup>, Minna Romo<sup>^</sup>, Nelli Rönkä<sup>μx</sup>, Satu Simell, M.D., Ph.D.<sup>¥12</sup>, Päivi Tossavainen, M.D.<sup>μx</sup>, Mari Vähä-Mäkilä<sup>¥</sup>, Eeva Varjonen<sup>^11</sup>, Riitta Veijola, M.D., Ph.D.<sup>μx13</sup>, Irene Viinikangas<sup>μx</sup>, Silja Vilmi<sup>μx</sup>, Suvi M. Virtanen, M.D., Ph.D.<sup>\*±§2</sup>. ¥University of Turku, Turku, Finland, \*Tampere University, Tampere, Finland, <sup>μ</sup>University of Oulu, Oulu, Finland, <sup>^</sup>Turku University Hospital, Hospital District of Southwest Finland, Turku, Finland, <sup>±</sup>Tampere University Hospital, Tampere, Finland, <sup>\*</sup>Oulu University Hospital, Oulu, Finland, <sup>§</sup>Finnish Institute for Health and Welfare, Helsinki, Finland.

**Georgia/Florida Clinical Center:** Richard McIndoe, Ph.D., PI<sup>^4,10</sup>, Desmond Schatz, M.D.<sup>\*4,7,8</sup>, Diane Hopkins<sup>^11</sup>, Michael Haller, M.D.<sup>\*13</sup>, Risa Bernard<sup>^11</sup>, Melissa Gardiner<sup>^11</sup>, Ashok Sharma, Ph.D.<sup>^</sup>, Laura Jacobsen, M.D.<sup>\*13</sup>, Ashley DePeiza<sup>^</sup>, Jennifer Hosford<sup>^</sup>, Kennedy Petty<sup>^</sup>, Leah Myers<sup>^</sup>. <sup>^</sup>Center for Biotechnology and Genomic Medicine, Augusta University, Augusta, GA, USA. \*University of Florida, Pediatric Endocrinology, Gainesville, FL, USA.

**Germany Clinical Center:** Anette G. Ziegler, M.D., PI<sup>1,3,4,10</sup>, Ezio Bonifacio Ph.D.<sup>\*</sup>, Cigdem Gezgin, Willi Grätz, Anja Heublein, Eva Hohoff<sup>¥2</sup>, Sandra Hummel, Ph.D.<sup>2</sup>, Annette Knopff<sup>7</sup>, Melanie Köger, Sibylle Koletzko, M.D.<sup>¶12</sup>, Claudia Ramminger<sup>11</sup>, Roswith Roth, Ph.D.<sup>8</sup>, Jennifer Schmidt, Marlon Scholz, Joanna Stock<sup>8,11,13</sup>, Katharina Warncke, M.D.<sup>13</sup>, Lorena Wendel, Christiane Winkler, Ph.D.<sup>2,11</sup>. Forschergruppe Diabetes e.V. and Institute of Diabetes Research, Helmholtz Zentrum München, Forschergruppe Diabetes, and Klinikum rechts der Isar, Technische Universität München, Neuherberg, Germany. \*Center for Regenerative Therapies, TU Dresden, Dresden, Germany, <sup>¶</sup>Dr. von Hauner Children's Hospital, Department of Gastroenterology, Ludwig Maximilians University Munich, Munich, Germany, <sup>¥</sup>University of Bonn, Department of Nutritional Epidemiology, Bonn, Germany.

**Sweden Clinical Center:** Åke Lernmark, Ph.D., PI<sup>1,3,4,5,6,8,9,10</sup>, Daniel Agardh, M.D., Ph.D.<sup>6,12</sup>, Carin Andrén Aronsson, Ph.D.<sup>2,11,12</sup>, Rasmus Bennet, Corrado Cilio, Ph.D., M.D.<sup>6</sup>, Susanne Dahlberg, Ulla Fält, Malin Goldman Tsubarah, Emelie Ericson-Hallström, Lina Fransson, Thomas Gard, Emina Halilovic, Gunilla Holmén, Susanne Hyberg, Berglind Jonsdottir, M.D., Ph.D.<sup>11</sup>, Naghmeh Karimi, Helena Elding Larsson, M.D., Ph.D.<sup>6,13</sup>, Marielle Lindström, Markus Lundgren, M.D., Ph.D.<sup>13</sup>, Marlena Maziarz, Ph.D., Jessica Melin<sup>11</sup>, Caroline Nilsson, Yohanna Nordh, Kobra Rahmati, Anita Ramelius, Falastin Salami, Anette Sjöberg, Evelyn Tekum Amboh Carina Törn, Ph.D.<sup>3</sup>, Ulrika Ulvenhag, Terese Wiktorsson, Åsa Wimar<sup>13</sup>. Lund University, Lund, Sweden.

**Washington Clinical Center:** William A. Hagopian, M.D., Ph.D., PI<sup>1,3,4,6,7,10,12,13</sup>, Michael Killian<sup>6,7,11,12</sup>, Claire Cowen Crouch<sup>11,13</sup>, Jennifer Skidmore<sup>2</sup>, Luka-Sophia Bowen, Mikeil Metcalf, Arlene Meyer, Jocelyn Meyer, Denise Mulenga<sup>11</sup>, Nole Powell, Jared Radtke, Shreya Roy, Davey Schmitt, Preston Tucker. Pacific Northwest Research Institute, Seattle, WA, USA.

**Pennsylvania Satellite Center:** Dorothy Becker, M.D., Margaret Franciscus, MaryEllen Dalmagro-Elias Smith<sup>2</sup>, Ashi Daftary, M.D., Mary Beth Klein, Chrystal Yates. Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA, USA.

**Data Coordinating Center:** Jeffrey P. Krischer, Ph.D., PI<sup>1,4,5,9,10</sup>, Rajesh Adusumali, Sarah Austin-Gonzalez, Maryouri Avendano, Sandra Baethke, Brant Burkhardt, Ph.D.<sup>6</sup>, Martha Butterworth<sup>2</sup>, Nicholas Cadigan, Joanna Clasen, Kevin Counts, Laura Gandolfo, Jennifer Garmeson, Veena Gowda, Christina Karges, Shu Liu, Xiang Liu, Ph.D.<sup>2,3,8,13</sup>, Kristian Lynch, Ph.D.<sup>6,8</sup>, Jamie Malloy, Lazarus Mramba, Ph.D.<sup>2</sup>, Cristina McCarthy<sup>11</sup>, Jose Moreno, Hemang M. Parikh, Ph.D.<sup>3,8</sup>, Cassandra Remedios, Chris Shaffer, Susan Smith<sup>11</sup>, Noah Sulman, Ph.D., Roy Tamura, Ph.D.<sup>1,2,11,12,13</sup>, Dena Tewey, Henri Thuma, Michael Toth, Ulla Uusitalo, Ph.D.<sup>2</sup>, Kendra Vehik, Ph.D.<sup>4,5,6,8,13</sup>, Ponni Vijayakandipan, Melissa Wroble, Jimin Yang, Ph.D., R.D.<sup>2</sup>, Kenneth Young, Ph.D. *Past staff: Michael Abbondandolo, Lori Ballard, Rasheedah Brown, David Cuthbertson, Stephen Dankyi, Christopher Eberhard, Steven Fiske, David Hadley, Ph.D., Kathleen Heyman, Belinda Hsiao, Francisco Perez Laras, Hye-Seung Lee, Ph.D., Qian Li, Ph.D., Colleen Maguire, Wendy McLeod, Aubrie Merrell, Steven Meulemans, Ryan Quigley, Laura Smith, Ph.D.* University of South Florida, Tampa, FL, USA.

**Project scientist:** Beena Akolkar, Ph.D.<sup>1,3,4,5,6,7,9,10</sup>. National Institutes of Diabetes and Digestive and Kidney Diseases, Bethesda, MD, USA.

**Autoantibody Reference Laboratories:** Liping Yu, M.D.<sup>^5</sup>, Dongmei Miao, M.D.<sup>^</sup>, Kathleen Gillespie<sup>\*5</sup>, Kyla Chandler\*, Ilana Kelland\*, Yassin Ben Khoud\*, Matthew Randell \*. <sup>^</sup>Barbara Davis Center for Childhood Diabetes, University of Colorado Denver, \*Bristol Medical School, University of Bristol, UK.

**Genetics Laboratory:** Stephen S. Rich, Ph.D.<sup>3</sup>, Wei-Min Chen, Ph.D.<sup>3</sup>, Suna Onengut-Gumuscu, Ph.D.<sup>3</sup>, Emily Farber, Rebecca Roche Pickin, Ph.D., Jonathan Davis, Jordan Davis, Dan Gallo, Jessica Bonnie, Paul Campolieto. Center for Public Health Genomics, University of Virginia, Charlottesville, VA, USA.

**HLA Reference Laboratory:** William Hagopian<sup>3</sup>, M.D., Ph.D., Jared Radtke, Preston Tucker. Pacific Northwest Research Institute, Seattle, WA, USA. (Previously Henry Erlich, Ph.D.<sup>3</sup>, Steven J. Mack, Ph.D., Anna Lisa Fear. Center for Genetics, Children's Hospital Oakland Research Institute.)

**Repository:** Sandra Ke, Niveen Mulholland, Ph.D. NIDDK Biosample Repository at Fisher BioServices, Rockville, MD, USA.

**Other contributors:** Thomas Briesse, Ph.D.<sup>6</sup>, Columbia University. Todd Brusko, Ph.D.<sup>5</sup>, University of Florida, Gainesville, FL, USA. Suzanne Bennett Johnson, Ph.D.<sup>8,11</sup>, Florida State University, Tallahassee, FL, USA. Eoin McKinney, Ph.D.<sup>5</sup>, University of Cambridge, Cambridge, UK. Tomi Pastinen, M.D., Ph.D.<sup>5</sup>, The Children's Mercy Hospital, Kansas City, MO, USA. Steffen Ullitz Thorsen, M.D., Ph.D.<sup>2</sup>, Department of Clinical Immunology, University of Copenhagen, Copenhagen, Denmark, and Department of Pediatrics and Adolescents, Copenhagen University Hospital, Herlev, Denmark. Eric Triplett, Ph.D.<sup>6</sup>, University of Florida, Gainesville, FL, USA.

**Committees:**

<sup>1</sup>Ancillary Studies, <sup>2</sup>Diet, <sup>3</sup>Genetics, <sup>4</sup>Human Subjects/Publicity/Publications, <sup>5</sup>Immune Markers, <sup>6</sup>Infectious Agents, <sup>7</sup>Laboratory Implementation, <sup>8</sup>Psychosocial, <sup>9</sup>Quality Assurance, <sup>10</sup>Steering, <sup>11</sup>Study Coordinators, <sup>12</sup>Celiac Disease, <sup>13</sup>Clinical Implementation.