



מרכז שניידר לילדים בישראל
مرکز شایدر لطیف الأطفال في اسرائيل
Schneider Children's Medical Center of Israel

The Antibody Detection Israeli Research



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UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

7th Symposium on
General Population Screening for T1D

Tal Oron-Disclosures

- Advisor: Sanofi
- Speaker fees: from Sanofi, Eli-Lilly
- Research funding: Sanofi, Keren-Hanadiv

Screening for type 1 diabetes in the general population

HLA

DIPP

BABY-SCREEN

TEDDY

GRS

GPPAD

GLOBAL PLATFORM FOR THE PREVENTION
OF AUTOIMMUNE DIABETES



PRIMED
consortium

**General
Population
Screening Pilot**

**Combined
Genetic &
Abs**

**Abs
Based**

**General Population Screening
Approaches**



T1Detect



Breakthrough T1D™
Formerly JDRF



T1Early



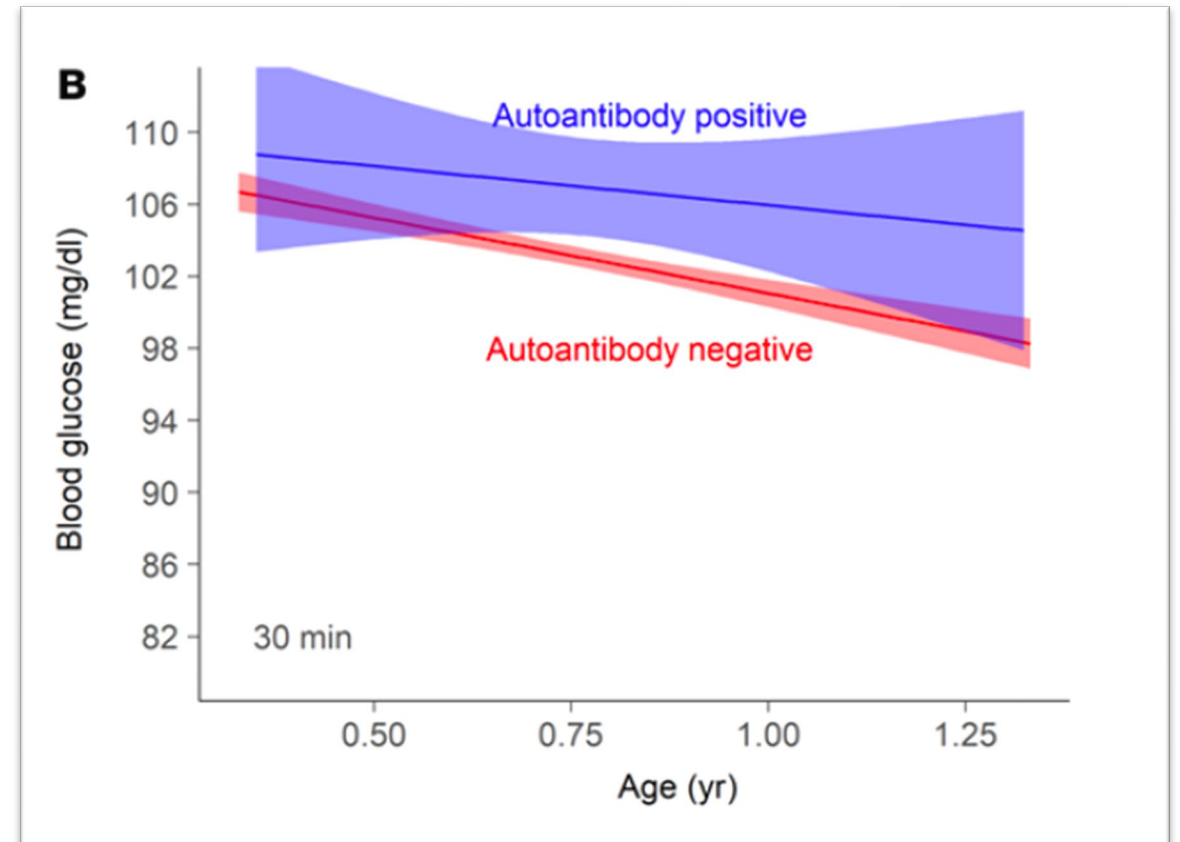
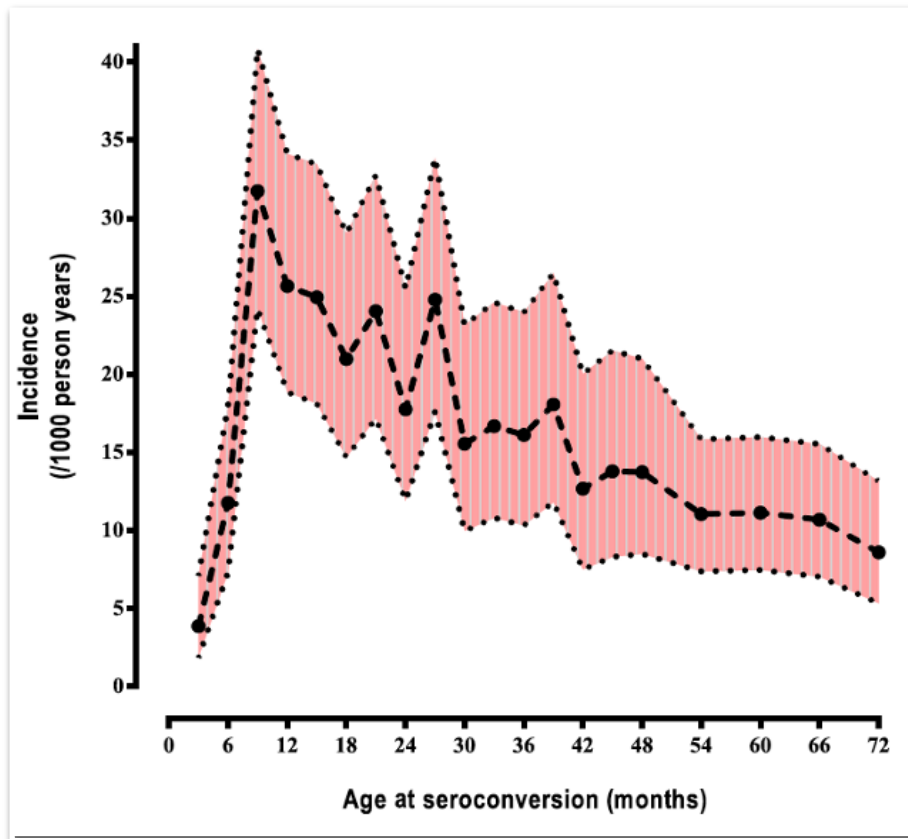
Why ADIR?

- Young age
- A sensitive screening technology
- Two screens
- Using the infrastructure of a public health system
- A unique population



How low can you get?

T1D begins early in life – before **AB's Appear**



Why ADIR?

- Young age
- An innovative, sensitive technology
- Two screens
- Using the infrastructure of our public health system
- A unique population



ADIR- Aim

Prevent DKA
Episodes

Effective
Therapy for
T1D

Disease
Prevention

Biomarkers

Further
Studies

ADIR- Aim

A national, mandatory screening program based on antibodies that will identify children with preclinical T1D

Prevent DKA
Episodes

Effective
Therapy for
T1D

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Biomarkers

Further
Studies

ADIR- Design

A screening program for children all over Israel

35,000 children & 5,000 screened twice (40,000 samples all over)

Age: 9 months- 5 years, capillary blood (CBC screening)

Confirmation- ADAP, ELISA&RIA

Children with multiple antibodies are followed (education, stress)

A 5 years study >> A national screening program

ADIR- Design



Enrollment
Community clinics



Study lab



Central HMO labs

Research center



Follow up
Diabetes centers



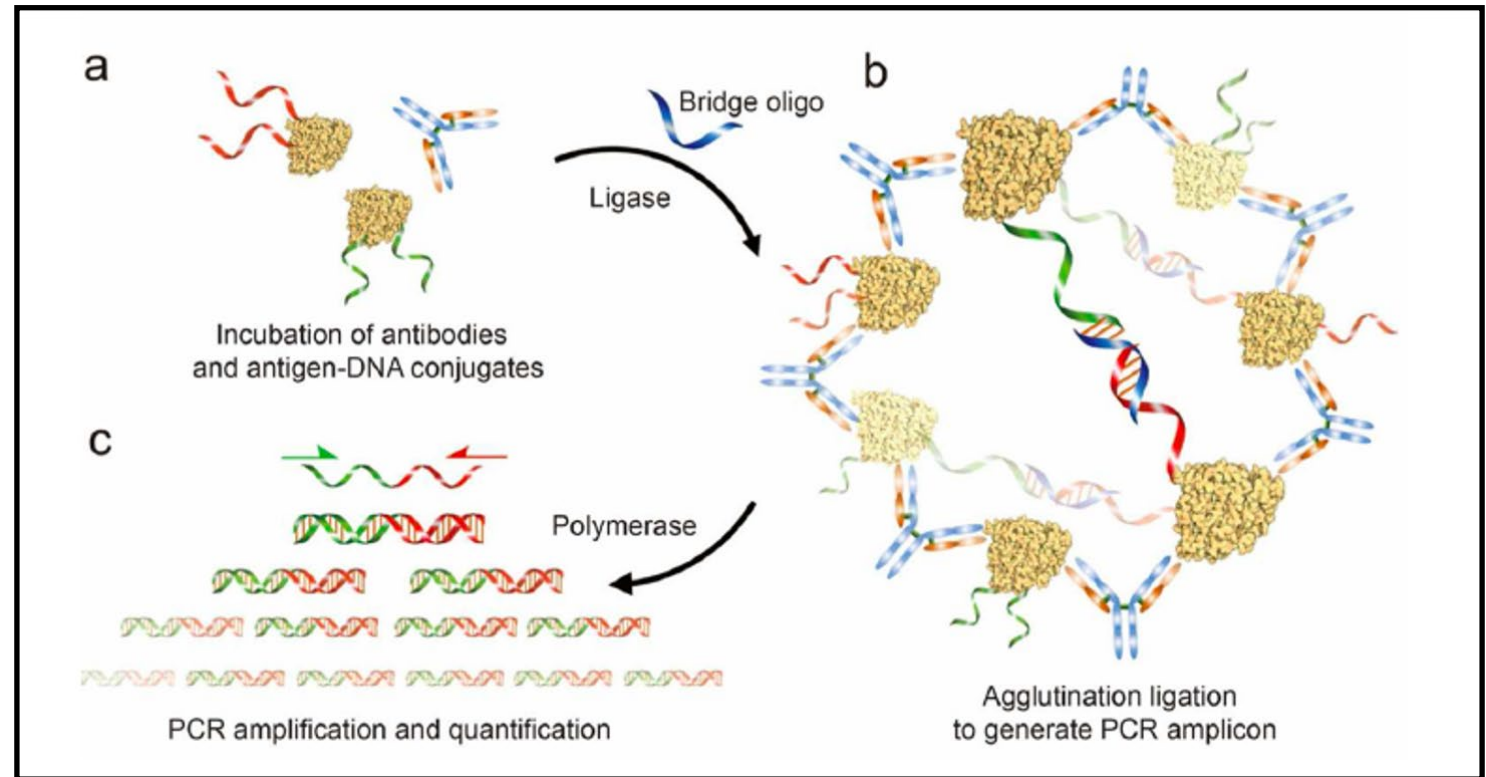
ADIR- Design

- 61 recruiting clinics
- 6 diabetes centers



ADAP- Antibody Detection by Agglutination PCR


- Sensitive
- IA-2, IAA, GADA
- 4 μ L of whole blood
- ZnT8 Ab's soon
- Celiac?

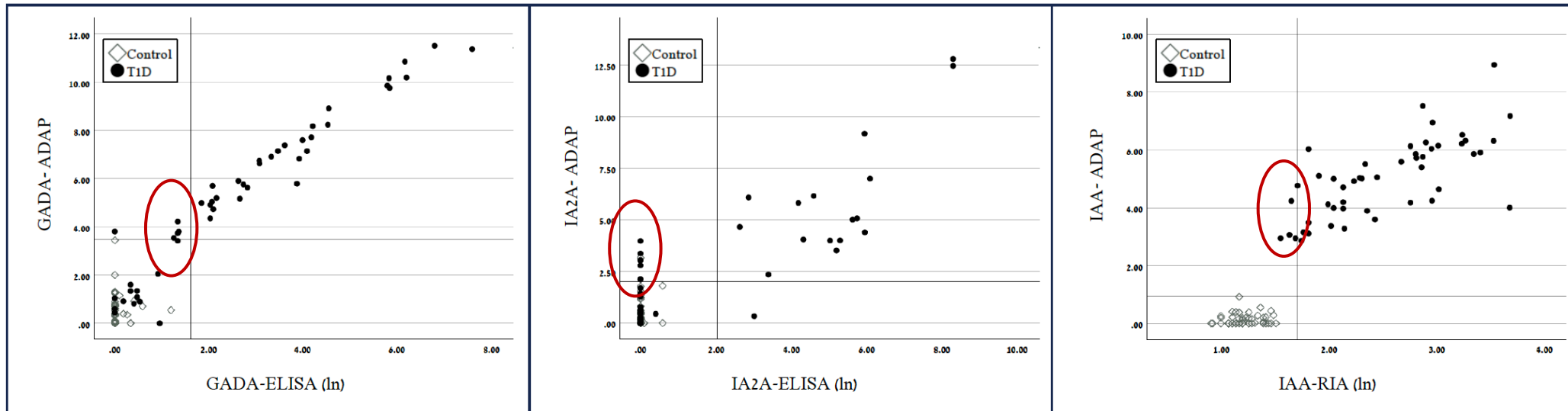


ADAP- Validation study

Research Article

Detection of Islet Autoantibodies in Whole Blood by Antibody Detection by Agglutination-PCR (ADAP) Technology Is Sensitive and Suitable for General Population Screening Programs

Tal Oron ^{1,2} Felipe de Jesus Cortez,³ Biana Shtaif,^{1,4} Peter V. Robinson,³ Michal Yackobovitch-Gavan,^{1,5} Devangkumar Tandel,³ David Seftel,³ Moshe Phillip,^{1,2} Cheng-ting Tsai,³ and Galia Gat-Yablonski^{1,4}



ADIR- Current status

- 15,208 children recruited
- Age ~ 19m
 - <18m- 11,145
 - 18m-5y- 4,063
- 9,100 samples analyzed



מקדימים את הסוכרת

הזמנה להשתתפות במחקר לאיתור ילדים הנמצאים בסיכון לחלות בסוכרת

סוכרת נעורים היא מחלה כרונית נרכשת הנפוצה ביותר בילדים ובני נוער. גילוי מוקדם של ילדים הנמצאים בסיכון לחלות בסוכרת יאפשר למנוע את הופעתה במצב מסכן חיים ולצמצם את השלכותיה.

הגילוי המוקדם מתבצע על ידי בדיקת דם של מספר טיפות ומומלץ לבצעו כבר בגיל 9-18 חודשים ביחד עם ספירת הדם המבוצעת בתקופה זו.



לפרטים נוספים שאלו את רופא/ת הילדים שלכם או את אחות/המרפאה

צעד לפני
בשביל הבריאות שלך

Preliminary results- Multiple Ab's

- Age~ 16m
- Multiple antibodies- 54 (0.59%)>> 17/36 confirmed
- 5 children at risk & a single Ab

GADA+ IA-2A	GADA+ INS-A	IA2-A+ INS-A	All 3
27	12	7	8

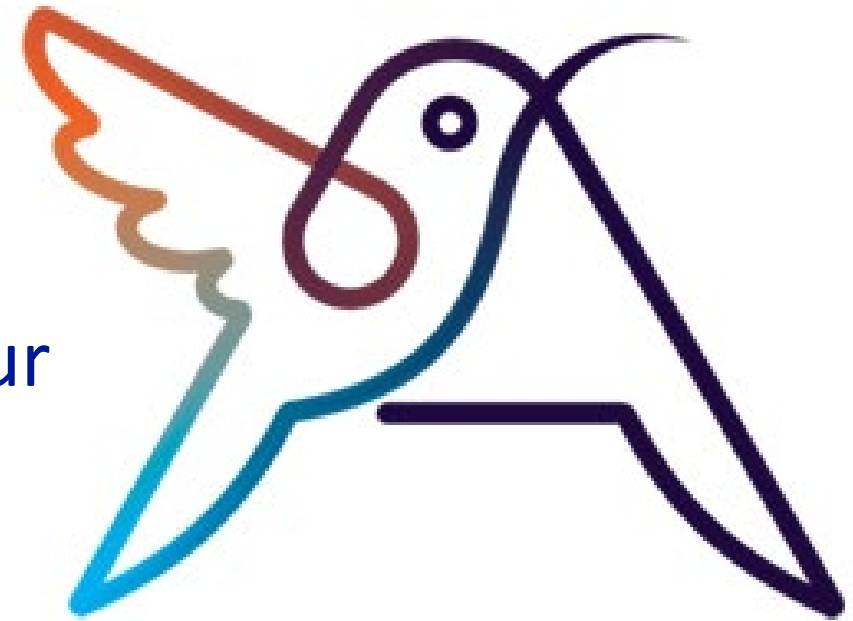
Preliminary results- Single Ab

- Age~ 14m
- 309 children positive ~3.3%

GADA	IA-2A	INS-A
93	105	111

Challenges & Prospects

- The second screen
- Following children with a single antibody
- The ADAP method
- Integrating the screening & follow-up to our health system
- ADIR in families



Summary

A model for a national screening program

Young age & An innovative technology

Promising preliminary results

Partnership with the community

DKA and disease prevention





Thank you!!!

- Community clinics
- Central labs
- Clalit health
- SCMCI
- Our team

