Clinical trial results:
Treatment of Latent Tuberculosis Infection: Diagnostics (RID-TB:Dx)
A randomised controlled trial to evaluate a RD-1 based C-Tb skin test diagnostic strategy for detection of latent TB infection and initiation of TB preventive treatment in the UK

Summary

EudraCT number	2019-002592-34
Trial protocol	GB
Global end of trial date	12 March 2025

Results information

Result version number	v1 (current)
This version publication date	25 December 2025
First version publication date	25 December 2025

Trial information

Trial identification

Sponsor protocol code	RID-TB:Dx

Additional study identifiers

ISRCTN number	ISRCTN17936038
ClinicalTrials.gov id (NCT number)	-
WHO universal trial number (UTN)	-

Notes:

Sponsors

Sponsor organisation name	University College London
Sponsor organisation address	90 High Holborn, London, United Kingdom, WC1V 6LJ
Public contact	Trinh Duong, Institute of Clinical Trials and Methodology at UCL, t.duong@ucl.ac.uk
Scientific contact	Trinh Duong, Institute of Clinical Trials and Methodology at UCL, t.duong@ucl.ac.uk

Notes:

Paediatric regulatory details

Is trial part of an agreed paediatric investigation plan (PIP)	No
Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial?	No
Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial?	No

Notes:

Results analysis stage

Analysis stage	Final
Date of interim/final analysis	12 March 2025
Is this the analysis of the primary completion data?	Yes
Primary completion date	12 March 2025
Global end of trial reached?	Yes
Global end of trial date	12 March 2025
Was the trial ended prematurely?	Yes

Notes:

General information about the trial

Main objective of the trial:

The overall aim was to evaluate patient-related outcomes for C-Tb testing for latent TB infection (LTBI) screening and process of implementation within the NHS. The primary objective of the trial was to estimate the proportion of participants offered C-Tb skin test diagnostic strategy who initiate treatment for LTBI within 12 weeks.

Protection of trial subjects:

The study engaged people with a high risk of LTBI, including new entrants to the UK as well as individuals who are contacts of people with active TB. This population is potentially marginalised, vulnerable or hard-to-engage in care. Engagement were carried out in such a way that stigma would be minimised, and participants were not disadvantaged in any way. Our PPI partner, TB Alert, has a long history working with the populations that we recruited from, and provided advice for our patient-facing interactions.

Background therapy:

IGRA tests for LTBI: T-SPOT, QuantiFERON Gold

Evidence for comparator:

The new C-Tb skin test was developed by Statens Serum Institut (SSI), and reported to have high overall concordance (94%), and similar sensitivity (74%) and specificity (96%) to the QFT-Gold In Tube blood IGRA test. C-Tb contains recombinant ESAT-6 (dimer) and CFP10 (monomer) antigens derived from Mycobacterium tuberculosis (M.tb). Similar to the QFT-Gold In Tube, and in contrast to the TST, C-Tb appears unaffected by previous BCG vaccination and HIV infection. Amongst healthy volunteers, contacts of TB cases, and people with current/previous TB disease, C-Tb shows higher rates of positivity with increasing levels of exposure to M.tb. C-Tb could thus be an immunological improvement on the standard TST, and could offer an accurate, acceptable and cheaper replacement or alternative to the IGRA.
Following a systematic review that confirmed the similar accuracy of C-Tb to IGRA, the World Health Organization recommended the use of C-Tb as an alternative to existing tests. However, there is no evidence of the impact of C-Tb testing on patient and process outcomes when used in routine practice.

Actual start date of recruitment	15 October 2021
Long term follow-up planned	No
Independent data monitoring committee (IDMC) involvement?	Yes

Notes:

Population of trial subjects

Subjects enrolled per country

Country: Number of subjects enrolled	United Kingdom: 126
Worldwide total number of subjects	126
EEA total number of subjects	0

Notes:

Subjects enrolled per age group	
In utero	0
Preterm newborn - gestational age < 37 wk	0
Newborns (0-27 days)	0
Infants and toddlers (28 days-23 months)	0
Children (2-11 years)	0
Adolescents (12-17 years)	4
Adults (18-64 years)	122
From 65 to 84 years	0
85 years and over	0

Subject disposition

Recruitment

Recruitment details:

Participants were recruited from the UK between October 2021 to September 2024. We approached 9 primary care sites, 11 secondary care sites, and one community site for set-up. However, only one primary care site and five secondary care sites agreed to participate and recruited at least one participant.

Pre-assignment

Screening details:

Participant Inclusion Criteria
1. Aged 16 – 65 years
2. Eligible for LTBI testing with IGRA and treatment for LTBI according to UK guidance
3. Willing and able to provide written informed consent
4. Willing and able to comply with the trial

Participant Exclusion Criteria
1. Displaying any symptoms or signs of active TB disease*

Pre-assignment period milestones

Number of subjects started	353[1]
Number of subjects completed	126

Pre-assignment subject non-completion reasons

Reason: Number of subjects	Not eligible: 38
Reason: Number of subjects	Declined to participate: 189

Notes:

[1] - The number of subjects reported to have started the pre-assignment period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.
Justification: Pre-assignment figure of 353 included participants screened for enrolment, or these 126 were enrolled.

Period 1

Period 1 title	Main Trial (overall period)
Is this the baseline period?	Yes
Allocation method	Randomised - controlled
Blinding used	Not blinded

Arms

Are arms mutually exclusive?	Yes
Arm title	Intervention arm

Arm description:

C-Tb diagnostic strategy

Arm type	Experimental
Investigational medicinal product name	C-Tb
Investigational medicinal product code	C-Tb
Other name	Cy-Tb
Pharmaceutical forms	Solution for injection/infusion
Routes of administration	Intradermal use

Dosage and administration details:

0.1ml total administered once

Arm title	Control arm

Arm description:	
IGRA diagnostic strategy	
Arm type	Standard of care comparator
No investigational medicinal product assigned in this arm	

Number of subjects in period 1	Intervention arm	Control arm
Started	76	50
Completed	65	41
Not completed	11	9
participant discharged from TB clinic	1	-
Lost to follow-up	10	9

Baseline characteristics

Reporting groups	
Reporting group title	Intervention arm
Reporting group description: C-Tb diagnostic strategy	
Reporting group title	Control arm
Reporting group description: IGRA diagnostic strategy	

Reporting group values	Intervention arm	Control arm	Total
Number of subjects	76	50	126
Age categorical Units: Subjects			
In utero	0	0	0
Preterm newborn infants (gestational age < 37 wks)	0	0	0
Newborns (0-27 days)	0	0	0
Infants and toddlers (28 days-23 months)	0	0	0
Children (2-11 years)	0	0	0
Adolescents (12-17 years)	2	2	4
Adults (18-64 years)	74	48	122
From 65-84 years	0	0	0
85 years and over	0	0	0
Age continuous Units: years			
median	27	27	
inter-quartile range (Q1-Q3)	24 to 32	23 to 31	-
Gender categorical Units: Subjects			
Female	31	20	51
Male	45	30	75
TB risk exposure group Units: Subjects			
High TB burden country	57	34	91
Close contact	18	14	32
Healthcare worker	1	1	2
Other	0	1	1
Site Units: Subjects			
Newham Transitional	38	24	62
Royal Free	3	3	6
Whittington	24	14	38
North Middlesex University Hospital	1	0	1
Newham Chest Clinic	9	8	17
Mile End	1	1	2
Current Employment Status Units: Subjects			

Full-time employment	24	16	40
Part-time employment	17	8	25
Student	18	15	33
Retired/unemployed/unable to work	17	11	28
BCG Vaccination status Units: Subjects			
Vaccinated	52	34	86
Unvaccinated	13	9	22
Unknown	11	7	18
Country of birth Units: Subjects			
UK	8	9	17
India	40	22	62
Bangladesh	7	7	14
Abroad	21	12	33

End points

End points reporting groups	
Reporting group title	Intervention arm
Reporting group description: C-Tb diagnostic strategy	
Reporting group title	Control arm
Reporting group description: IGRA diagnostic strategy	
Subject analysis set title	Modified Intention to Treat
Subject analysis set type	Modified intention-to-treat
Subject analysis set description: Modified intention to treat population excluded one participant who was not properly randomised.	

Primary: LTBI Treatment initiation - Primary analysis	
End point title	LTBI Treatment initiation - Primary analysis
End point description: Number of participants initiating LTBI treatment within 12 weeks (mITT population)	
End point type	Primary
End point timeframe: Within 12 weeks after LTBI testing	

End point values	Intervention arm	Control arm	Modified Intention to Treat	
Subject group type	Reporting group	Reporting group	Subject analysis set	
Number of subjects analysed	76	49	125	
Units: People				
Reached endpoint	3	0	3	
Did not reach endpoint	73	49	122	

Statistical analyses

Statistical analysis title	Proportion of participants initiating treatment
Statistical analysis description: The primary objective of the study is to estimate the proportion of participants offered C-Tb testing who initiate treatment for LTBI within 12 weeks (the study was not powered for a comparison between arms). The analysis population was modified intention-to-treat.	
Comparison groups	Intervention arm v Control arm
Number of subjects included in analysis	125
Analysis specification	Pre-specified
Analysis type	other[1]
Parameter estimate	Proportion
Point estimate	0.0395

Confidence interval	
level	95 %
sides	2-sided
lower limit	0.0135
upper limit	0.1097

Notes:

[1] - The primary objective of the study is to estimate the proportion of participants offered C-Tb testing who initiate treatment for LTBI within 12 weeks (the study was not powered for a comparison between arms)

Adverse events

Adverse events information

Timeframe for reporting adverse events:

During study follow-up up to 4 weeks after LTBI test administration

Adverse event reporting additional description:

All participants receiving LTBI testing were included in safety analyses (n=126).
Active TB disease was not included as an adverse event (NB. One participant in intervention arm was a late screening failure with TB diagnosed soon after randomisation).

Assessment type	Systematic

Dictionary used

Dictionary name	MedDRA
Dictionary version	25.1

Reporting groups

Reporting group title	Intervention arm

Reporting group description:

C-Tb diagnostic strategy - before study redesign all participants randomised to C-Tb were administered C-Tb (n=15) after the study redesign participants randomised (n=76) to the C-Tb intervention arm could elect not to have it and instead choose to have the standard of care IGRA blood test. 10 participants randomised to the intervention arm chose to have the C-Tb test

Reporting group title	Control arm

Reporting group description:

IGRA diagnostic strategy

Serious adverse events	Intervention arm	Control arm	
Total subjects affected by serious adverse events			
subjects affected / exposed	0 / 76 (0.00%)	0 / 50 (0.00%)	
number of deaths (all causes)	0	0	
number of deaths resulting from adverse events	0	0	

Frequency threshold for reporting non-serious adverse events: 0 %

Non-serious adverse events	Intervention arm	Control arm	
Total subjects affected by non-serious adverse events			
subjects affected / exposed	2 / 76 (2.63%)	2 / 50 (4.00%)	
Injury, poisoning and procedural complications			
Contusion	Additional description: Bruising at site of C-Tb injection. Grade 1 - mild.		
subjects affected / exposed	1 / 76 (1.32%)	0 / 50 (0.00%)	
occurrences (all)	1	0	
Dog bite			

subjects affected / exposed	0 / 76 (0.00%)	1 / 50 (2.00%)	
occurrences (all)	0	1	
Nervous system disorders			
Headache	Additional description: Grade 1 - mild		
subjects affected / exposed	1 / 76 (1.32%)	0 / 50 (0.00%)	
occurrences (all)	1	0	
General disorders and administration site conditions			
Influenza like illness	Additional description: Grade 1 - mild		
subjects affected / exposed	1 / 76 (1.32%)	0 / 50 (0.00%)	
occurrences (all)	1	0	
Blood and lymphatic system disorders			
Lymphadenopathy			
subjects affected / exposed	0 / 76 (0.00%)	1 / 50 (2.00%)	
occurrences (all)	0	1	
Skin and subcutaneous tissue disorders			
Erythema	Additional description: Grade 1 - Mild		
subjects affected / exposed	1 / 76 (1.32%)	0 / 50 (0.00%)	
occurrences (all)	1	0	

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? Yes

Date	Amendment
07 December 2022	Full protocol redesign

Notes:

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

Limitations of the trial such as small numbers of subjects analysed or technical problems leading to unreliable data.

The trial was stopped early due to low recruitment rates, with only 126 of the target n=400 enrolled

Notes: