IGRAs on paper
- specific diagnosis of TB infection sent via mail

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CONFLICTS OF INTEREST STATEMENT: I AM REGISTERED AS INVENTOR OF ISSUED AND PENDING PATENTS ON THE USE OF IP-10 FOR THE DIAGNOSIS OF TB
Aim

• Assess if QFT plasma can be dried on filter paper and used for TB diagnosis
materials & methods
Filter paper IP-10 signals are comparable to plasma

**IP-10**

- Plasma 3μl
- DPS 2 discs

**IP-10 on filter paper is stable**

- +5C
- +20C
- +37C
- +50C

1 representative example of 4 parallel experiments
**Training set**

QFT plasma samples from:
- 60 TB patients
- 59 healthy controls

**Validation set**

**Materials**
QFT plasma samples from:
- 78 TB patients
- 98 Healthy controls

**Method**
- IP-10 ELISA in Barcelona
- Filter paper by mail
- Paper analysis in Copenhagen

**Cut offs for positive test**

- DPS IP-10 = 105pg/2 discs
- Plasma IP-10 = 2.3ng/ml
- Plasma IFN-γ = 0.35IU/ml
Excellent correlation

\[ r^2 = 0.95 \]

Matching ROC curves

- IFN-\(\gamma\) plasma (AUC 0.90)
- Plasma IP-10 (AUC 0.91)
- Filter paper IP-10 (AUC 0.89)
Comparable diagnostic accuracy

Conclusion

- IP-10 is expressed in high amounts enabling detection using the filter paper method
- IP-10 is stable in dried plasma spots
- The IP-10 filter paper method is at par with QFT
Perspectives

• The IP-10 filter paper IGRA
  – Requires no cold chain
  – Can be carried out with almost no lab equipment
  – World wide applicable
  – May be automated using existing high-throughput equipment

• Goodbye to decentral IGRA analysis?

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