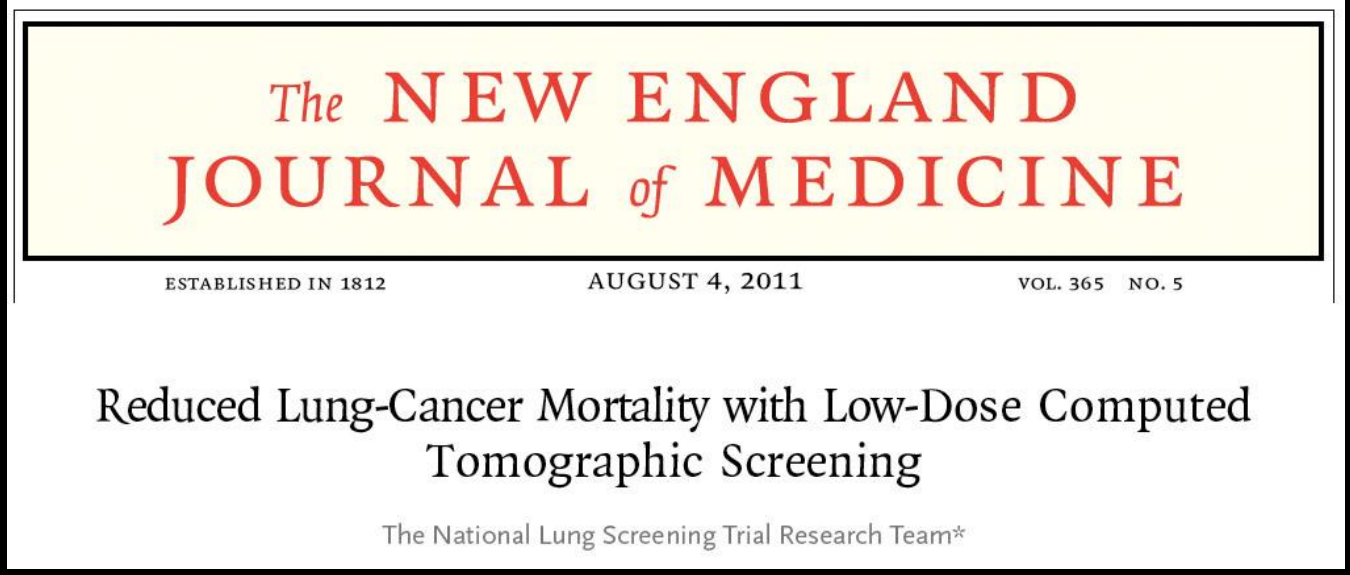
to avoid one lung cancer death in NLST:

- **900** CTs
- **18** PETs
- **3** bronchoscopies / FNABs
- **2** benign surgical resections



The NEW ENGLAND JOURNAL of MEDICINE

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Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening

The National Lung Screening Trial Research Team*

Lung cancer incidence and mortality in randomised LDCT trials (percent/year)

Study	trial arm	person/years	LC inc	LC mort	total mort
NLST	LDCT	144,103	0.65	0.25	1.30
	CR	143,368	0.57	0.31	1.40
PLCO*	CR	85,428	0.61	0.36	
	Observation	85,474	0.61	0.38	
DLCST	LDCT	9,769	0.66	0.15	0.62
	Observation	9,794	0.25	0.11	0.43
MILD	LDCT annual	5,482	0.62	0.22	0.56
	LDCT biennial	5,471	0.46	0.11	0.36
	Observation	6,433	0.31	0.11	0.31

* subset of 30,321 PLCO participants eligible for NLST trial

Supported by AIRC & Italian Ministry of Heatlh

Ricerca Finalizzata 2010

new screening targets

- higher individual risk: **5 – 10 fold**
- avoid useless radiation (**CT + PET**)
- targeted resection & chemotherapy
- less surgery for indolent disease

primary prevention is a priority

Long-Term Surveillance of Ground-Glass Nodules

Evidence from the MILD Trial

Silva Mario, MD, Sverzellati Nicola, MD, PhD,* Manna Carmelinda, MD,* Negrini Giulio, MD,* Marchianò Alfonso, MD,† Zompatori Maurizio, MD,‡ Rossi Cristina, MD,* and Pastorino Ugo, MD§*

76 ground-glass nodules (GGNs)
detected in 56 patients at baseline CT
followed for 5 years by CT:
only one (1.3%) progressed (stage Ia ADC)
3 developed LC in other sites

J Thor Oncol Epub, 2012

PNAS

MicroRNA signatures in tissues and plasma predict development and prognosis of computed tomography detected lung cancer

Mattia Boeri[a,1], Carla Verri[a,1], Davide Conte[a,1], Luca Roz[a,1], Piergiorgio Modena[b], Federica Facchinetti[a], Elisa Calabrò[c], Carlo M. Croce[d,2,3], Ugo Pastorino[c,2], and Gabriella Sozzi[a,2,3]

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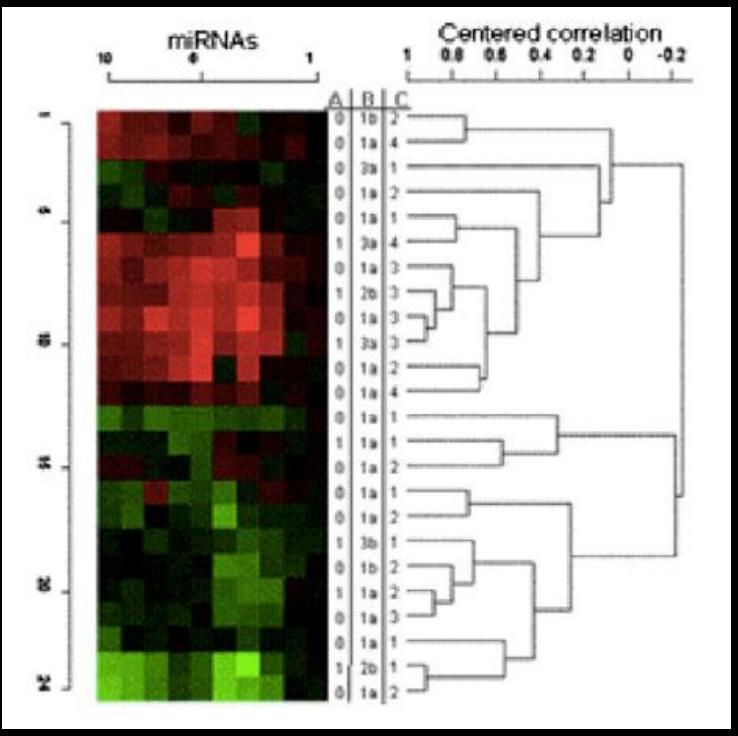

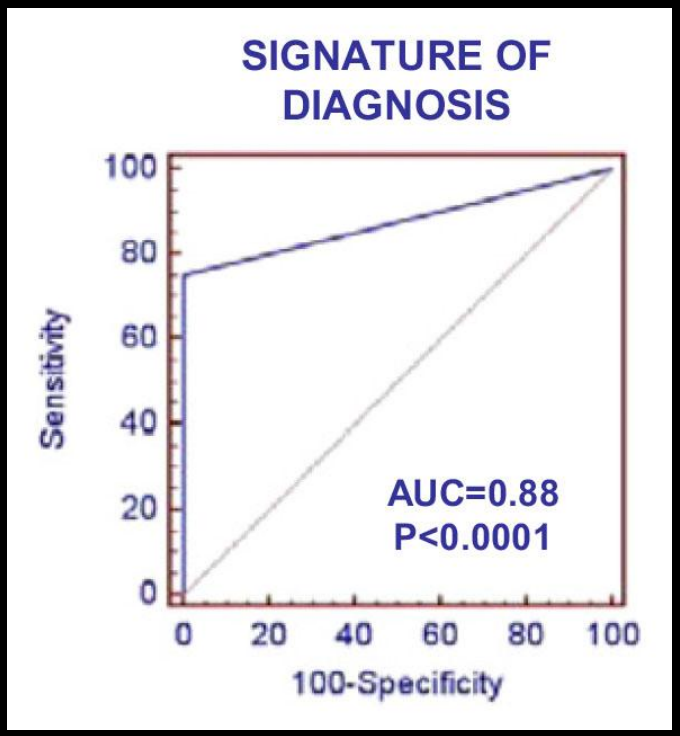

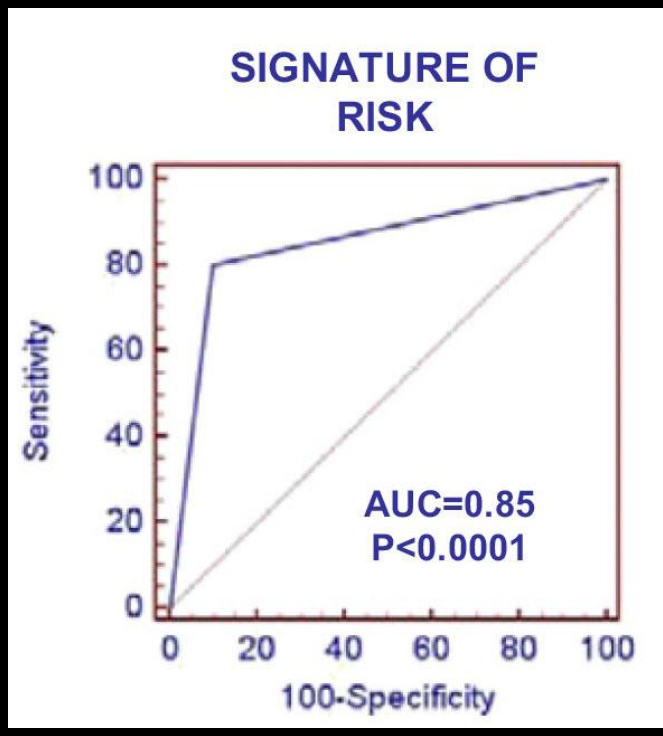

1 - 2 years before CT detection

PNAS, Epub: 7 Feb 2011

Supported by AIRC & Italian Ministry of Heatlh

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Extended validation of miRNAs

MILD trial: we have tested by qRT-PCR the 24 miRNA classifier in longitudinal plasma samples (pre- and post-resection):

70 CT-detected LCs, 200 clinical LCs, 1000 disease free smokers

BioMILD trial: 4,000 newly recruited subjects:

current and former (10 years or less) heavy smokers of ≥ 30 pack/years, aged ≥ 50

current or former smokers of < 30 pack/years, with additional risk factors (family history of lung cancer, prior diagnosis of COPD or pneumonia, certified exposure to carcinogens (i.e. asbestos).

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extended validation on MILD samples

miRNAs follow-up

CT-detected LC

clinical LC

pre - vs. post-treatment miRNA test

tumor-related miRNAs

host-related miRNAs

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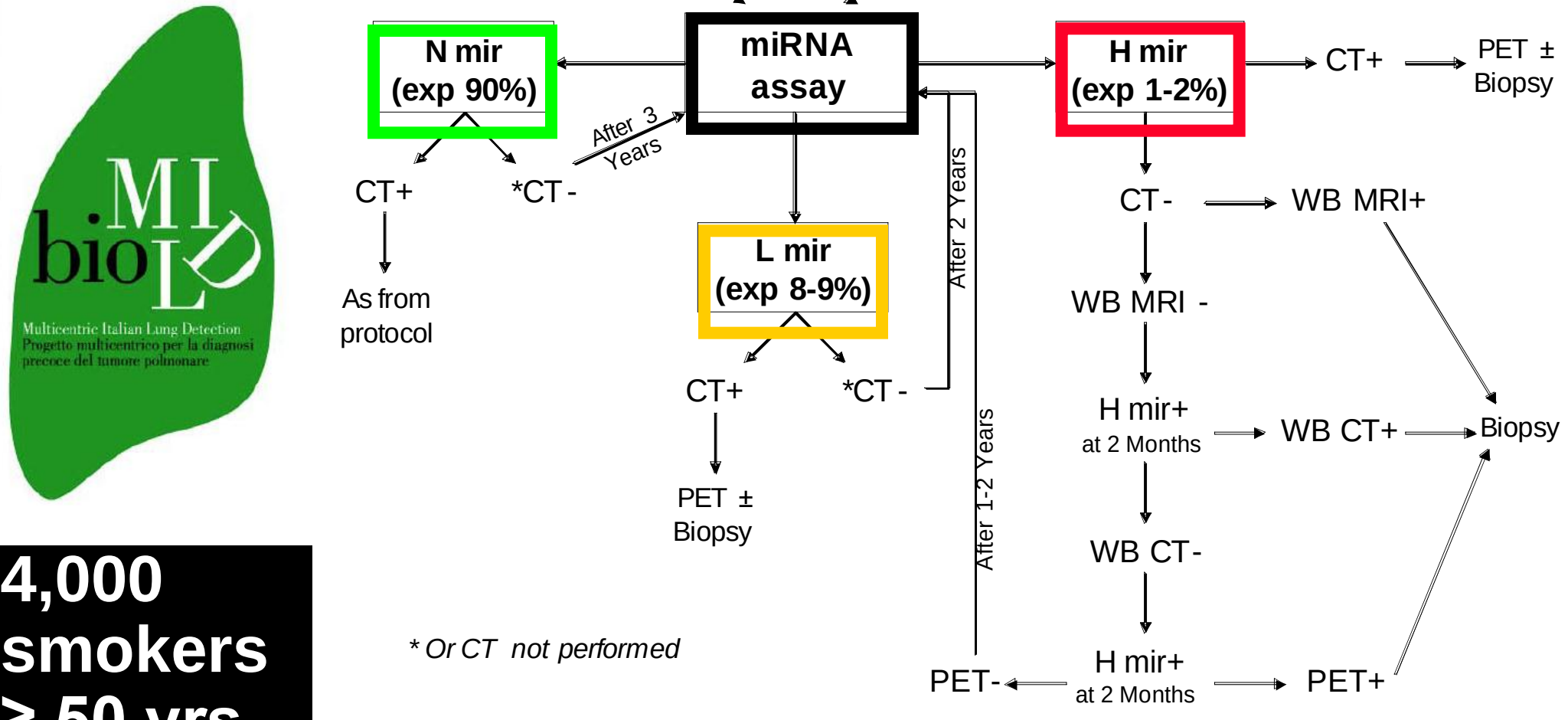
design



MIBIOLD
Multicentric Italian Lung Detection
Progetto multicentrico per la diagnosi precoce del tumore polmonare

4,000 smokers ≥ 50 yrs

Funding AIRC e Ricerca Finalizzata 2012 - 2014

Supported by AIRC & Italian Ministry of Heatlh

Ricerca Finalizzata 2010

potential benefits of miRNA test

- first line examination = **-75% CTs**
- or higher sensitivity = **up to 98%**
- surveillance of in-situ / BACs
- chemoprevention of **miRNA+ / CT-**

FONDAZIONE IRCCS
ISTITUTO NAZIONALE
DEI TUMORI

10 ANNI DI
ESPERIENZA CON
LA TAC SPIRALE

BIOMARCATORI
CANCRO
POLMONARI

TEST
microRNA

PARTECIPARE
AL PROGETTO

TEAM
MEDICI

www.biomild.org

L'adesione al progetto bioMILD è volontaria e completamente gratuita.
Si può aderire compilando l'apposito modulo di registrazione, inviando una mail all'indirizzo info@biomild.org oppure telefonando al numero verde 800.21.36.01

bioMILD

Multicentric Italian Lung Detection
Progetto multicentrico per la diagnosi precoce del tumore polmonare

un semplice prelievo di sangue la diagnosi di un tumore al polmone, identificato a uno stadio fino a due anni più precoce di quanto sia possibile utilizzando la Tac spirale, il più avanzato degli strumenti diagnostici oggi a disposizione.

Il progetto bioMILD si rivolge a persone ad alto rischio di tumore polmonare: uomini e donne di età superiore ai 50 anni, che siano forti fumatori, o che abbiano smesso di fumare da meno di 10 anni.

ci servono 4000 volontari