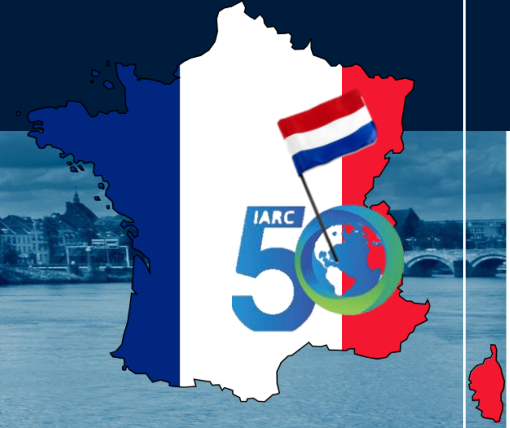


# The joint value of microsatellite instability and the *BRAF V600E* mutation in colorectal cancer prognosis

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# WHY STUDY MOLECULAR MARKERS IN COLORECTAL CANCER?

- Molecular fingerprint tumor may help select most beneficial treatment for specific tumor group
- Molecular markers are most interesting when these are potential therapeutic targets



## INTRODUCTION



## METHODS



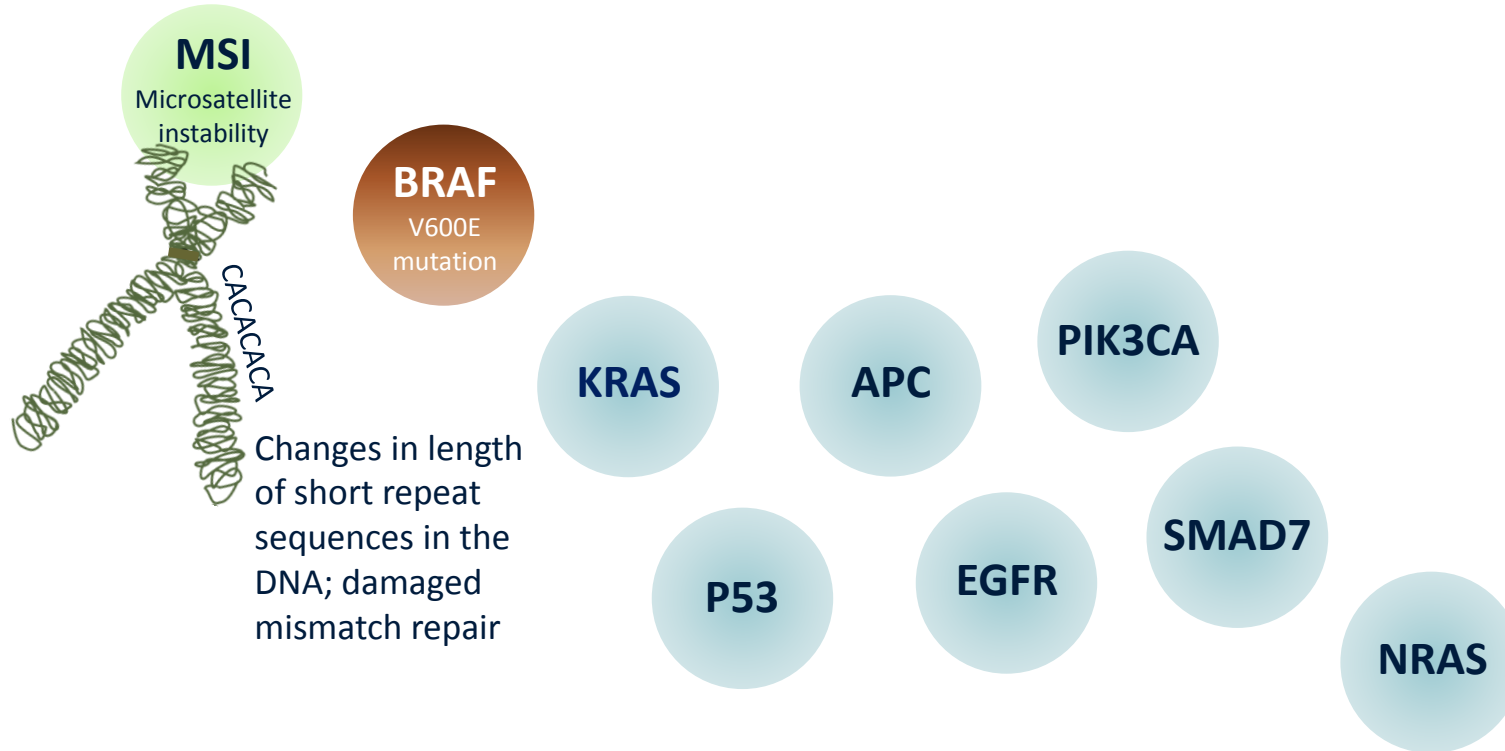
## RESULTS



## CONCLUSION



# MOLECULAR MARKERS IN COLORECTAL CANCER PROGNOSIS



## INTRODUCTION



## METHODS



## RESULTS

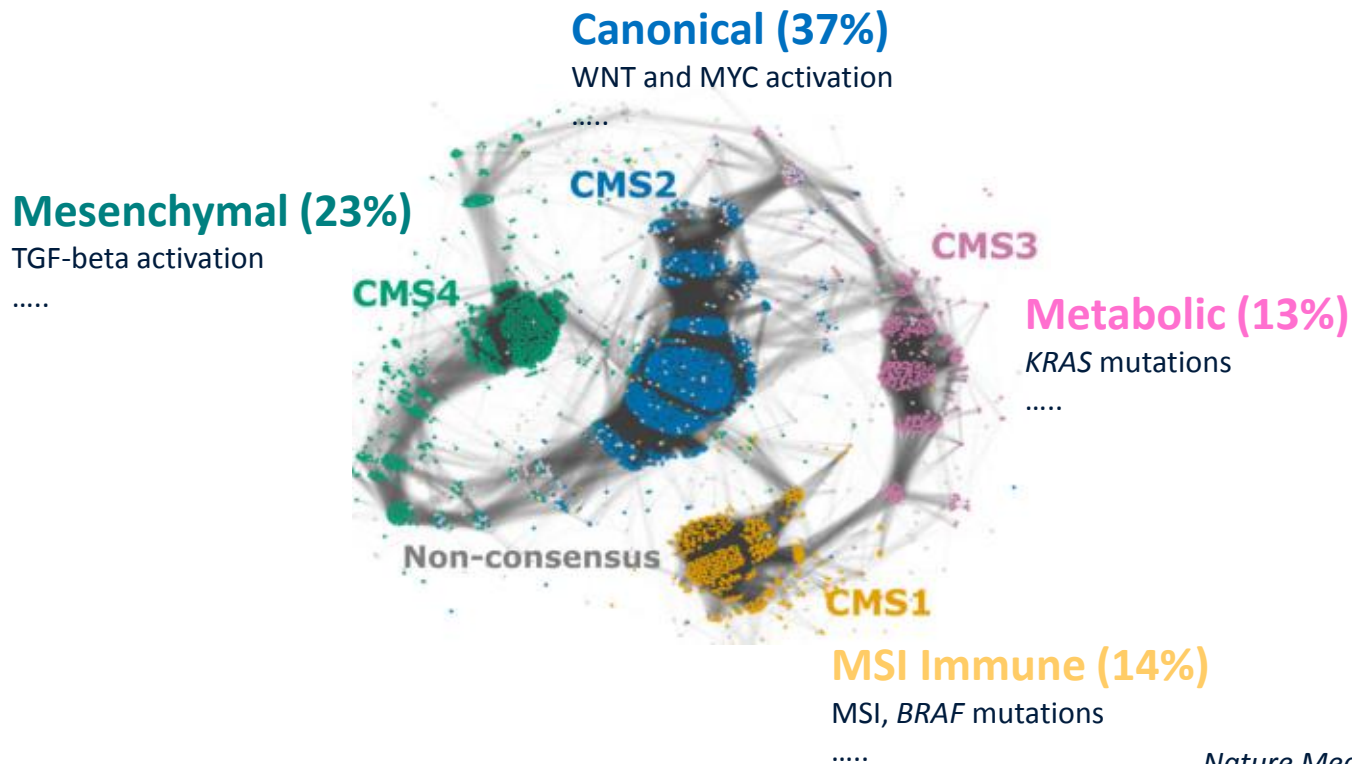


## CONCLUSION



# MOLECULAR MARKERS IN COLORECTAL CANCER PROGNOSIS

*Most recent: Consensus Molecular Subtypes (CMS)*



*Nature Medicine, 21(11),  
1350–1356 (2015)*

INTRODUCTION



METHODS



RESULTS

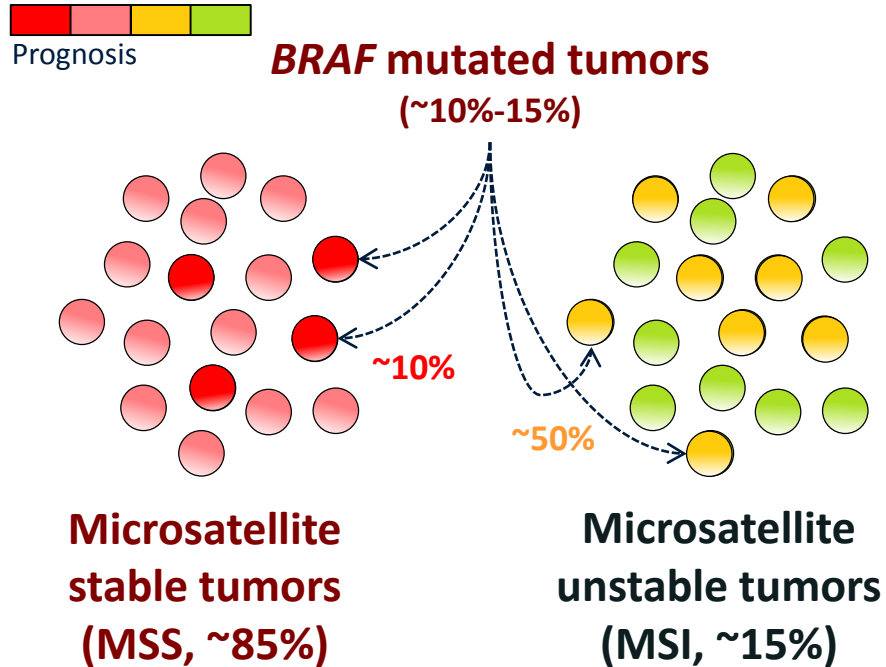


CONCLUSION



## WHY (STILL) INVESTIGATE MSI AND BRAF?

- Validated methods and marker panels exist for MSI and *BRAF* in clinical practice
- MSI and *BRAF* are potential therapeutic targets
- MSI and *BRAF* may have a joint value in prognosis



# METHODS

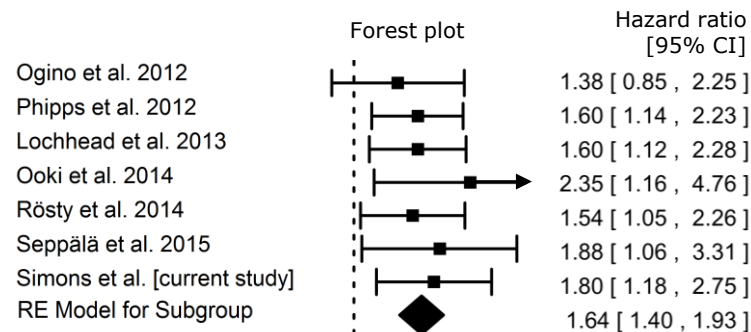
## *Meta-analysis*

- Outcomes of interest: CRC-specific mortality and overall mortality
- Pooled random effect (hazard ratio) was estimated if at least 3 studies were available and heterogeneity between studies was <50%
- Included were yet unpublished findings from the Netherlands Cohort Study

# RESULTS: CRC SPECIFIC MORTALITY

reference

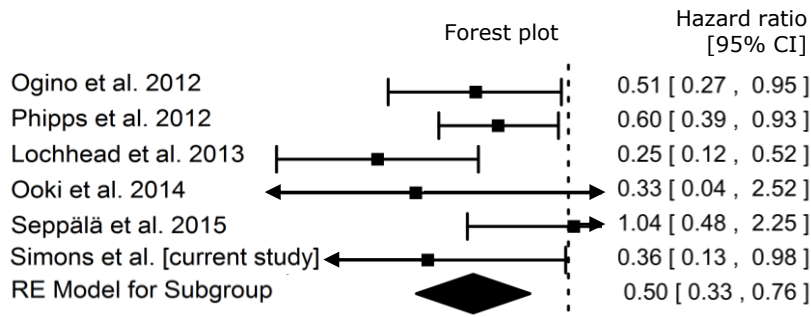
## MSS *BRAF* mutated



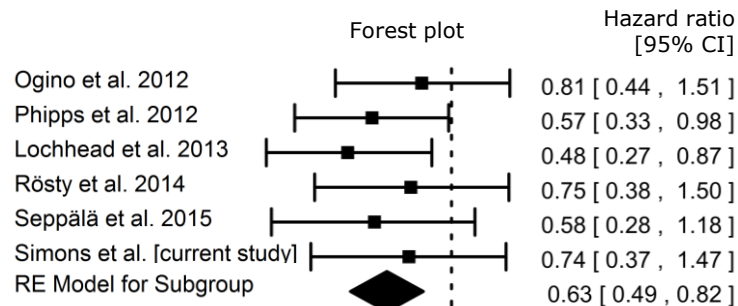
## METHODS

## MODEL 1

## MSI *BRAF* wild type



## MSI *BRAF* mutated



## RESULTS

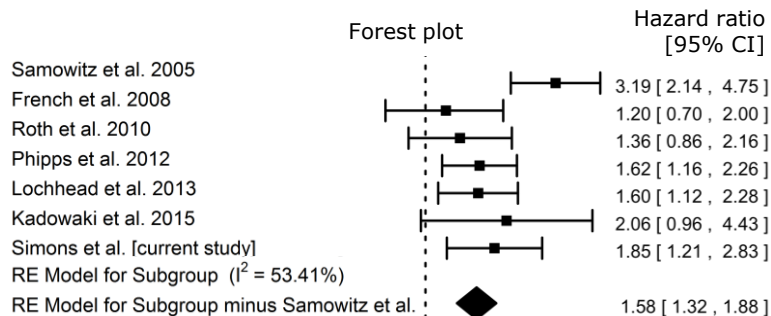
## CONCLUSION



## MSS *BRAF* wild type

reference

## MSS *BRAF* mutated



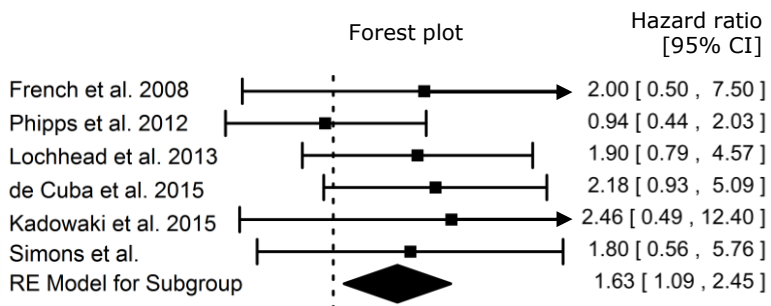
## METHODS

## MODEL 2 & 3

## MSI *BRAF* wild type

reference

## MSI *BRAF* mutated

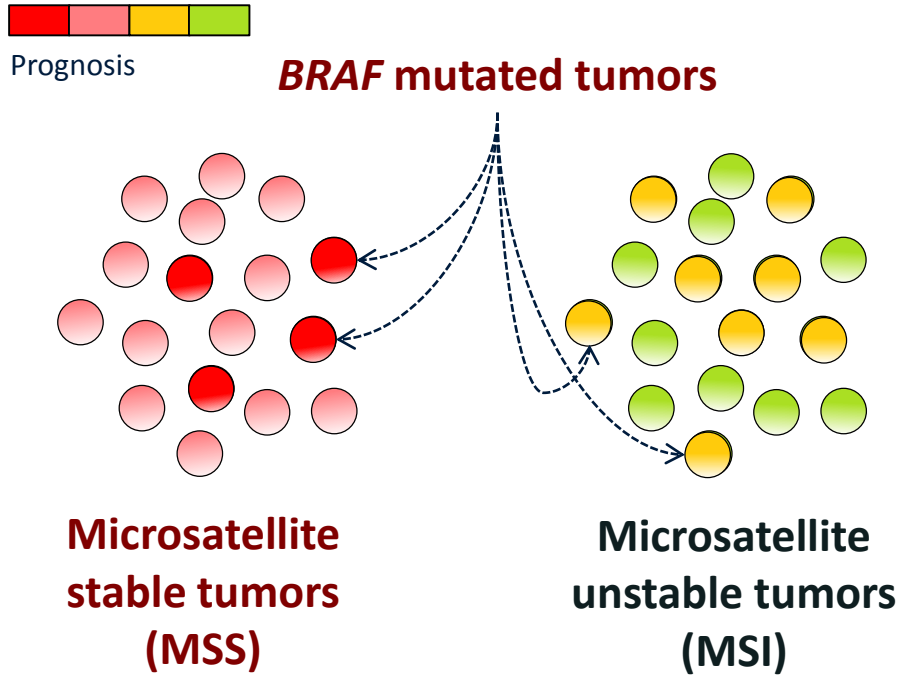


## RESULTS

## CONCLUSION



## CONCLUSION



Justifies further research into therapies targeting  
MSS/MSI *BRAF* mutated tumor groups

# Thank you for your attention!

## Acknowledgements:

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