## Arm-level Alterations in Cancer

CHASKAR Prasad, CHRISTINAT Yann and Dr. TSANTOULIS
Petros

July 23, 2019



• Somatic copy number alterations (SCNA) are frequent genetic events that promote tumor initiation and progression.

Literature Review

- Somatic copy number alterations (SCNA) are frequent genetic events that promote tumor initiation and progression.
- SCNA comprise genetic losses or gains of varying size<sup>1</sup>.

- Somatic copy number alterations (SCNA) are frequent genetic events that promote tumor initiation and progression.
- SCNA comprise genetic losses or gains of varying size<sup>1</sup>.
- Focal SCNAs and Arm-level SCNAs.



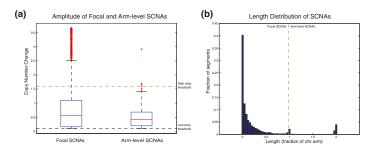


Figure: Separation of arm-level and focal SCNA<sup>2</sup>



1 Precise definition of an arm-level alteration



- Precise definition of an arm-level alteration
  - Percentage of arm to be considered as "arm-level"?
  - Contiguity required?
  - Use of smoothing function?



- Precise definition of an arm-level alteration
  - Percentage of arm to be considered as "arm-level"?
  - Contiguity required?
  - Use of smoothing function?
- ② Develop and validate tool for the prediction of arm-level alterations and focal alterations



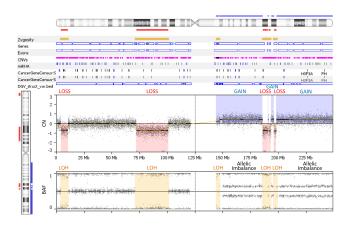


Figure: Analysis presentation by the Nexus Express OncoScan Software<sup>3</sup>



Oncoscan







Calculations

1 Precise definition of an arm-level alteration





Calculations

- Precise definition of an arm-level alteration
  - Percentage of arm to be considered as "arm-level"?
  - Contiguity required?
  - Use of smoothing function?





Calculations

- Precise definition of an arm-level alteration
  - Percentage of arm to be considered as "arm-level"?
  - Contiguity required?
  - Use of smoothing function?
- Percentage arm alteration estimation
  - Longest segment altered
  - Sum of all the segments altered



terature Review Objectives Approach **Results** Conclusion Acknowledgments

O
O
O
O



terature Review Objectives Approach Results **Conclusion** Acknowledgments

O
O
O
O

Julilliai



## Thank You!!!

