

Variations Structurales

Journée PEPI-Annotation

Jeudi 15 Novembre 2018

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Variation Structurales

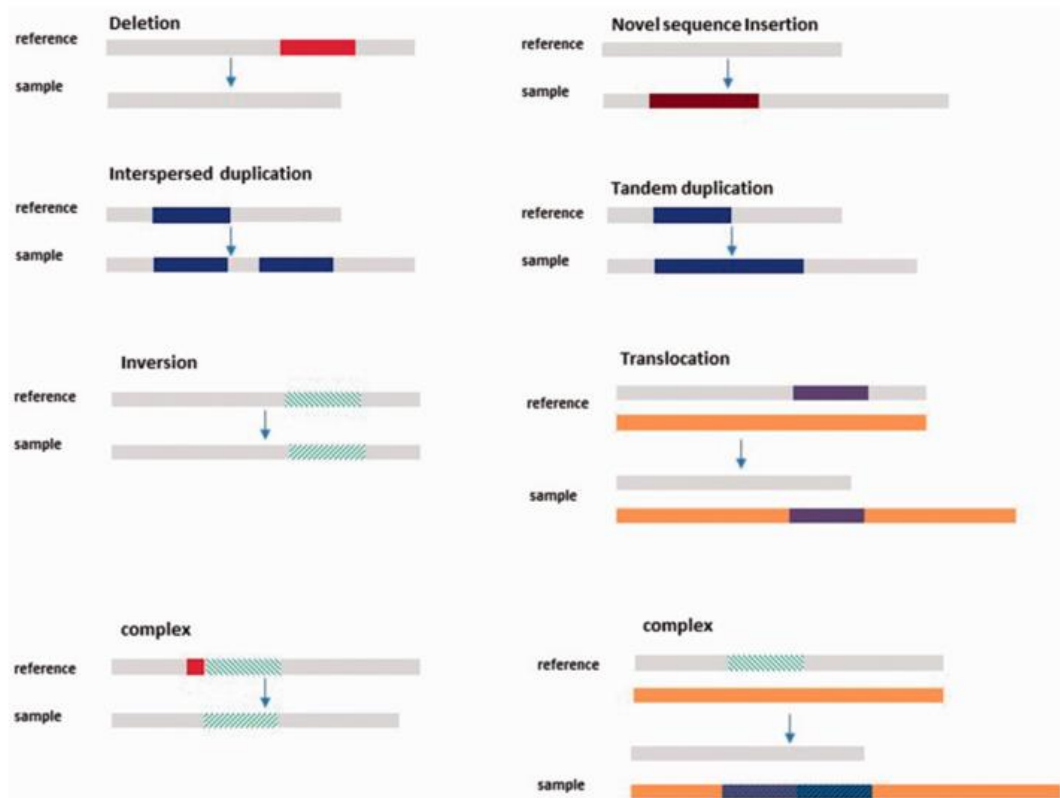
Translocations

Insertion/Délétions

Variations du nombre de copies

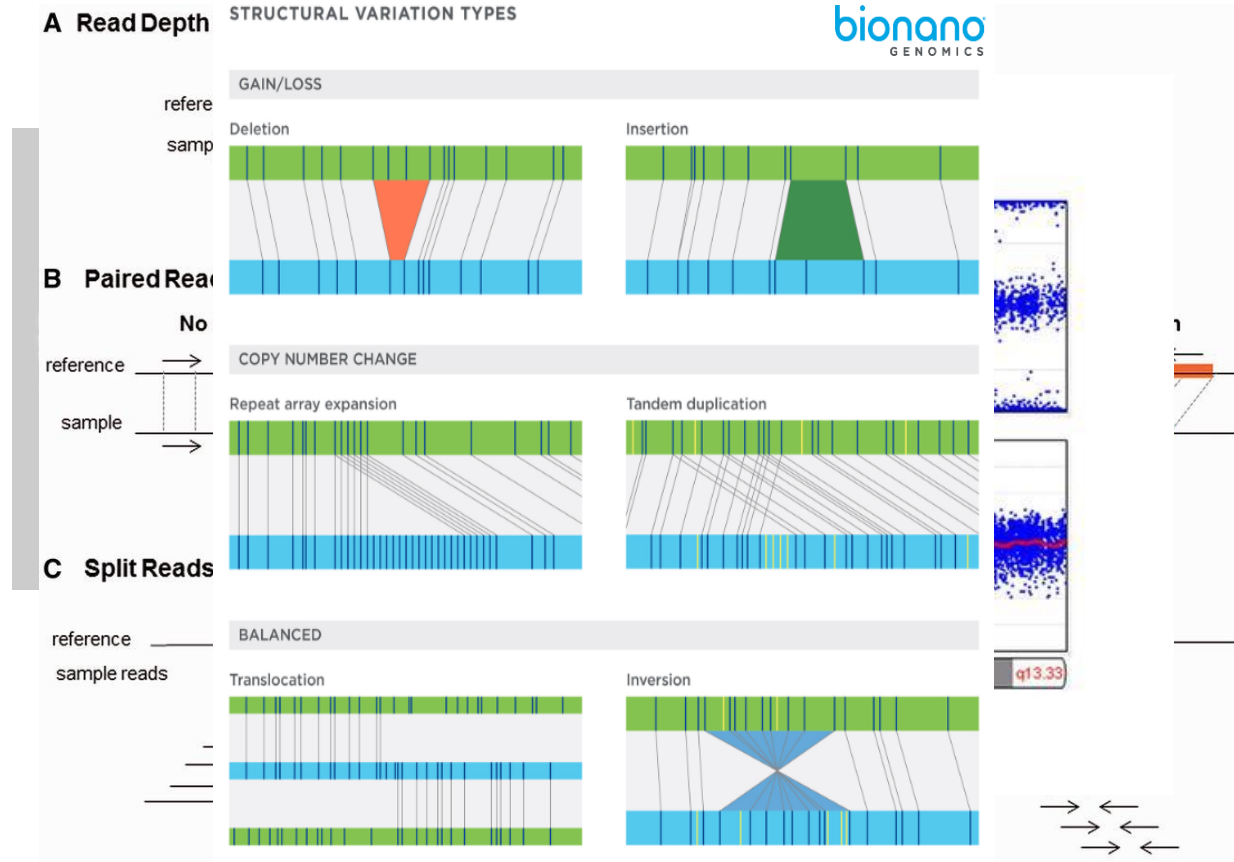
Quelle taille minimum?

50bp ? 500 bp? 1kb ?



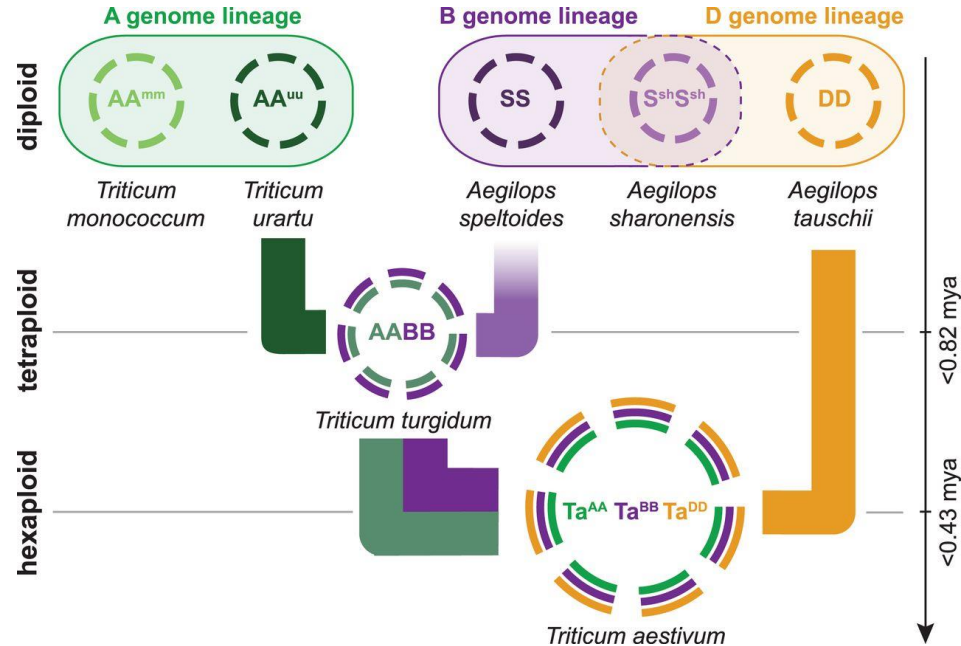
Variation Structurales - Méthodes

- Cytogénétique
- CGH array
- SNP genotyping (LRR/BAF)
- NGS
- Optical mapping

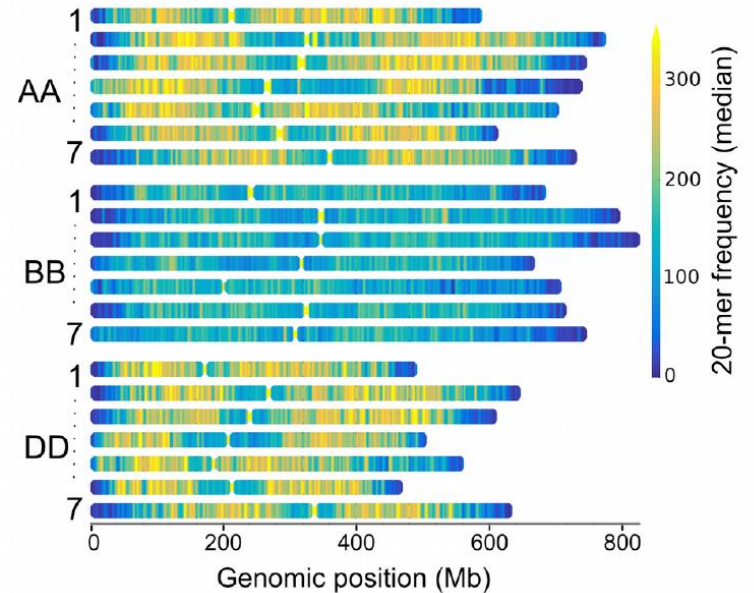


Triticum aestivum genome

T. aestivum history



Repeat Content: 85% TE



[Science](https://doi.org/10.1126/science.1251788). 2014 Jul 18;345(6194):1251788. doi: 10.1126/science.1251788.

A chromosome-based draft sequence of the hexaploid bread wheat (*Triticum aestivum*) genome.

[International Wheat Genome Sequencing Consortium \(IWGSC\)](http://www.internationalwheatgenome.org/).

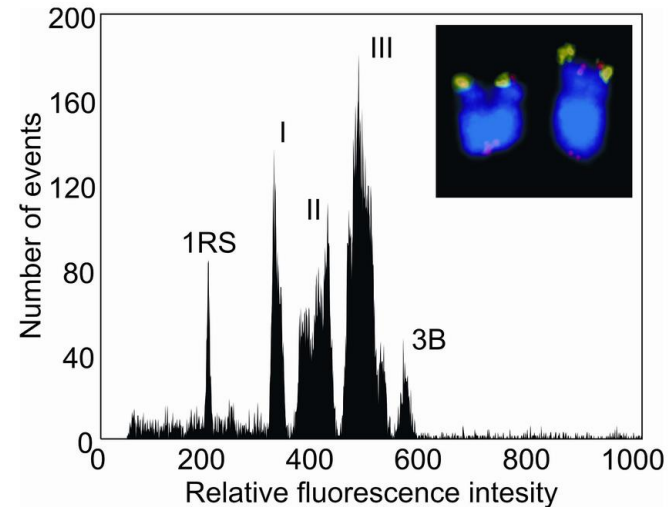
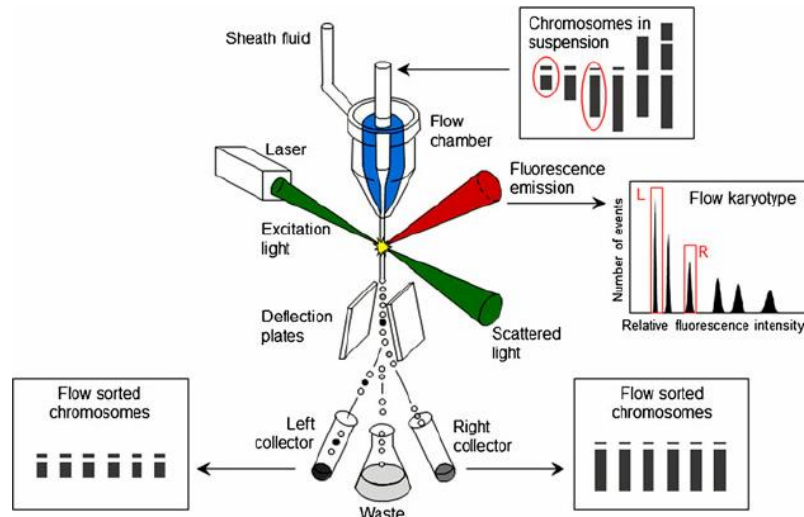
[Science](https://doi.org/10.1126/science.aar7191). 2018 Aug 17;361(6403). pii: eaar7191. doi: 10.1126/science.aar7191. Epub 2018 Aug 16.

Shifting the limits in wheat research and breeding using a fully annotated reference genome.

Variation Structurales - NGS sur 3B

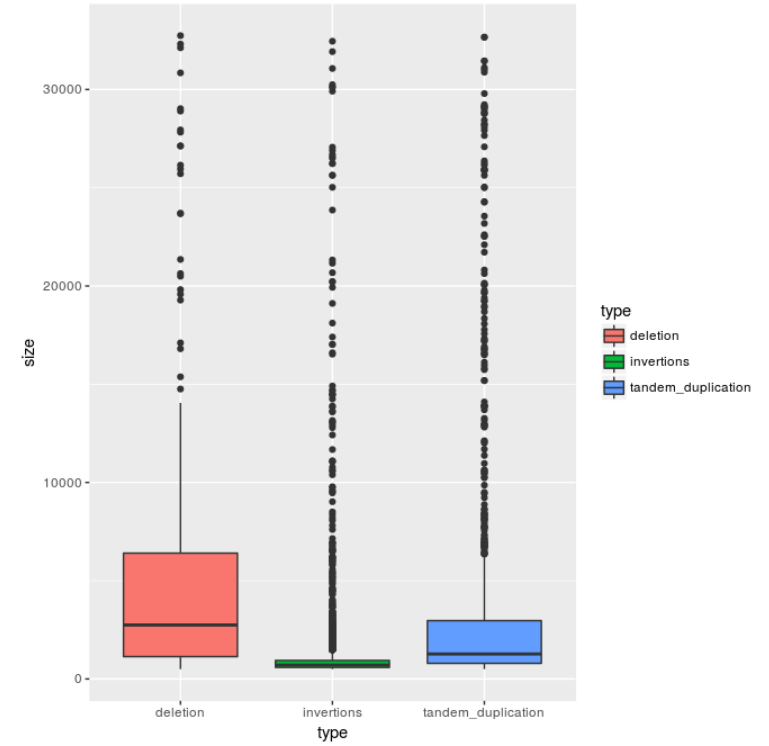
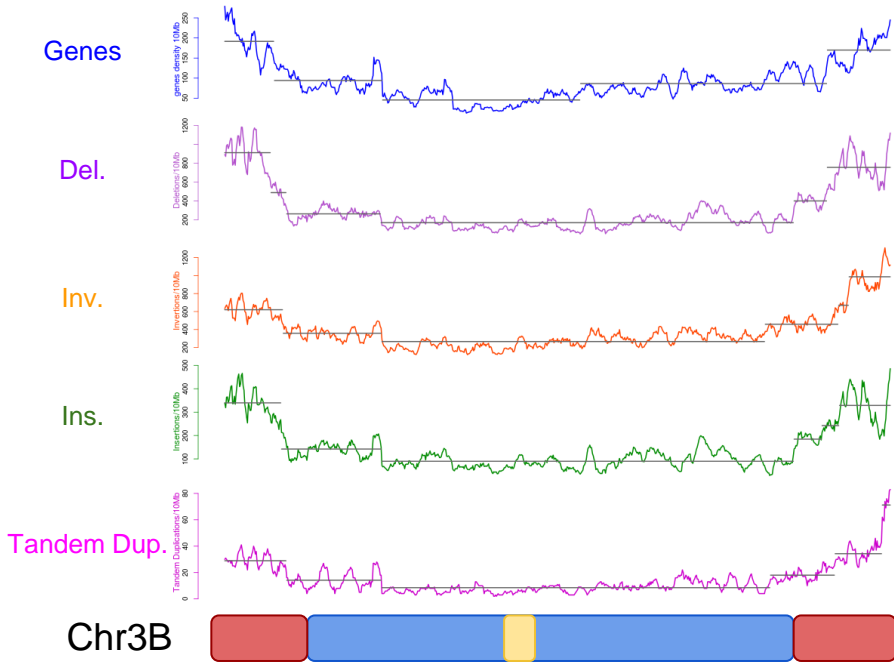
Reséquençage chromosomes 3B de blé tendre

Isoler chromosome 3B: cytométrie de flux



Variation Structurales - NGS sur 3B

Pindel: Pair-end + Split-read si info disponible pour faire le calling des points de cassure.



Variation Structurales - OTV

OTV: signatures de PAV ?



TaBW280K SNP array

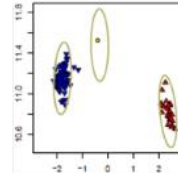
X



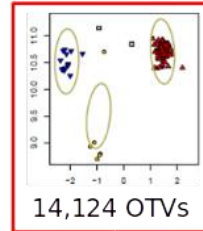
4,506 wheat lines



113,457 SNPs with less than 2% missing or heterozygous data



99,333 PolyHighRes



14,124 OTVs

Presence-absence variations



8,741 haplotypes

Merci de votre attention

SEVEN

Choulet Frédéric

Kitt Jonathan

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De Oliveira Romain

Juery Caroline

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