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IWGSC sequence repository: how to facilitate pseudomolecule assembly?

Michael M. Alaux, Frédéric Choulet, Loïc Couderc, Françoise F. Alfama-Depauw, Véronique Jamilloux, Thomas Letellier, Raphaël-Gauthier R.-G. Flores, Claire Guerche, Mikaël Loaec, Etienne Paux, et al.

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IWGSC Sequence Repository: How to facilitate pseudomolecule assembly ?

Michael Alaux



Wheat@URGI website



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Wheat@URGI



<http://wheat-urgi.versailles.inra.fr>



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Sequence Repository



<http://wheat-urgi.versailles.inra.fr/Seq-Repository>

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Sequence Repository: 3B example



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BLAST

BLAST



- Public BLAST
<https://urgi.versailles.inra.fr/blast/>
- More than 250 000 BLAST searches the past 2 years !



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<https://urgi.versailles.inra.fr/blast/>

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BLAST



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Physical maps

https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_phys_pub/

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Physical maps

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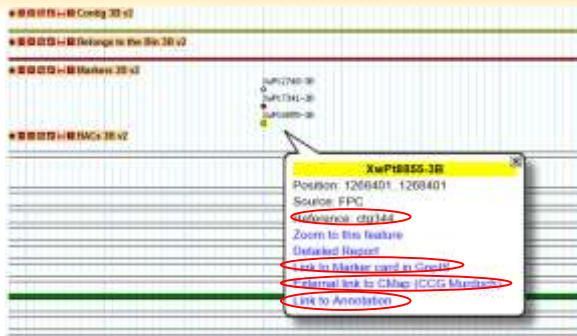
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Physical maps

https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_phys_pub/

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Physical maps



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3B reference sequence annotation



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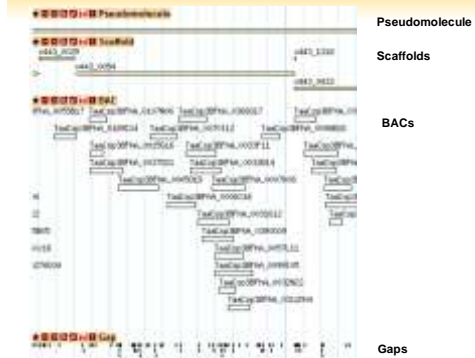
3B annotation



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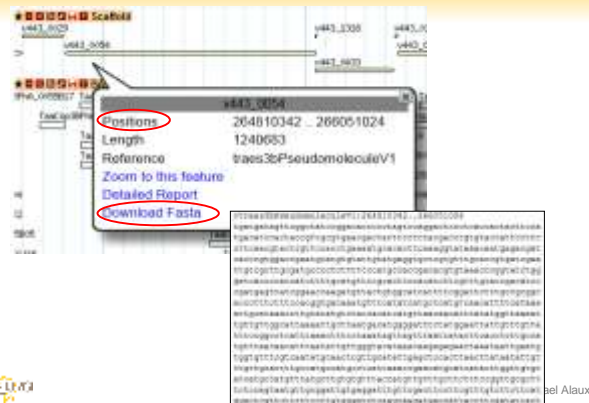
3B annotation



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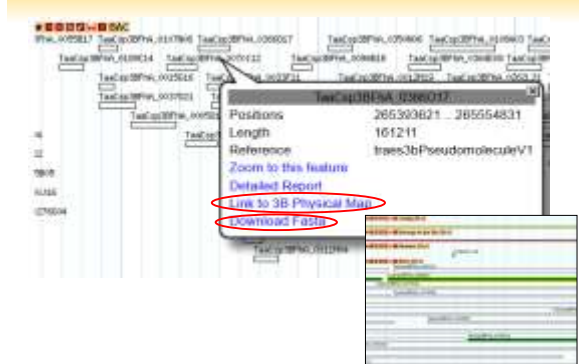
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3B annotation: Scaffold



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3B annotation: BAC



https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_annot_3B

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3B annotation



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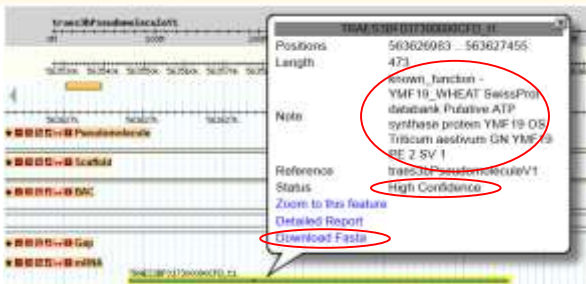
3B annotation: Marker



https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_annot_3B

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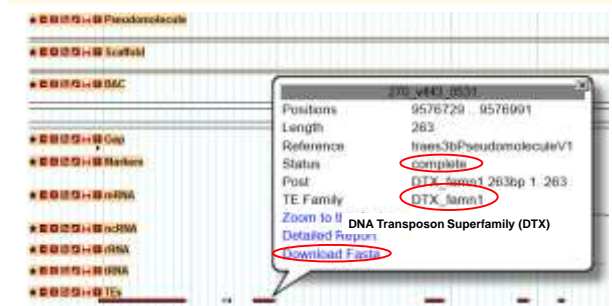
3B annotation: Gene



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3B annotation: TE



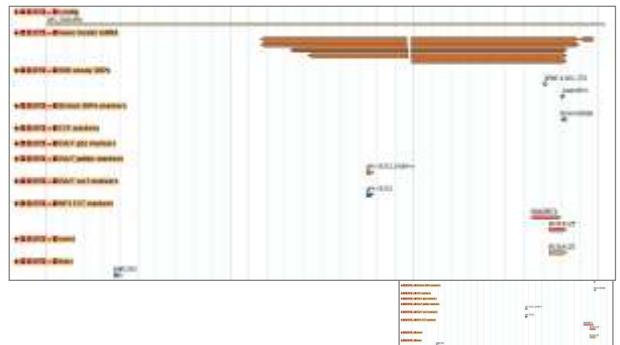
https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_annot_3B

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Survey sequence browser



Survey sequence



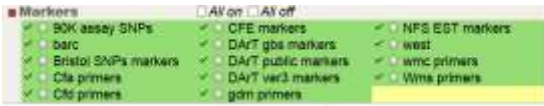
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https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_survey_sequence_annotation

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Survey sequence



Support to assembly and data submission



https://urgi.versailles.inra.fr/gb2/gbrowse/wheat_survey_sequence_annotation

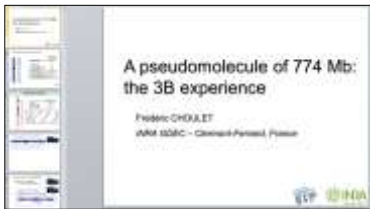
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BAC sequence assembly

4 BAC (300kb) assembly
 Frédéric Choulet, Stéphane Bouchon, Frédéric Choulet, Stéphane Bouchon, Frédéric Choulet, Stéphane Bouchon
<http://urgi.versailles.inra.fr/Seq-Repository>



- 3B MTP BAC sequencing
- 3B physical map
- Assembly and scaffolding
- Ordering scaffolds
- Perform the Annotation
- Bioinformatic tools

BAC sequence assembly

What are the needs?
 i.e. distribute the bioinformatics softwares



<http://wheat-urgi.versailles.inra.fr/Seq-Repository>

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Data submission



Wheat dataflow overview



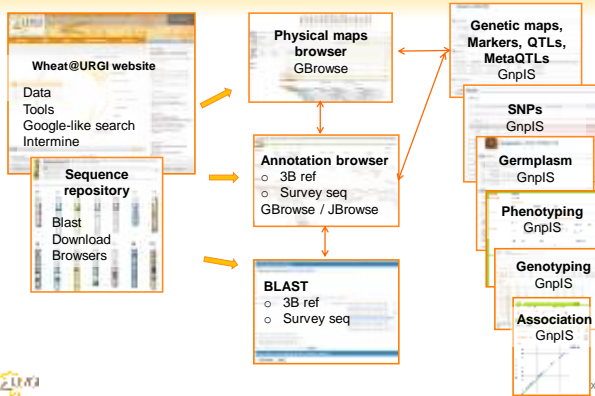
<http://wheat-urgi.versailles.inra.fr/Seq-Repository>

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Wheat dataflow overview



Acknowledgments



Alaux M.
Letellier T.
Couderc L.
Alfama F.
Jamilloux V.
Flores R.
Guerche C.
Loaec M.
Steinbach D.
Quesneville H.



Choulet F.
Paux E.



Rogers J.
Eversole K.

All data providers



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Questions

Sequence Repository

<http://wheat-urgi.versailles.inra.fr/Seq-Repository>

BLAST (public)

<https://urgi.versailles.inra.fr/blast/>

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