

Understanding transcription using yeast genetics

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Winston lab

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I am originally from Puerto Rico



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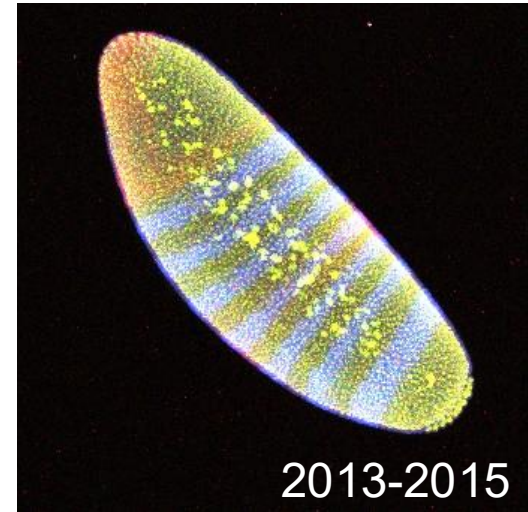
I studied architecture and biology at the University of Puerto Rico-Río Piedras



Different research opportunities motivated me to become a biology graduate student



2011-2012



2013-2015



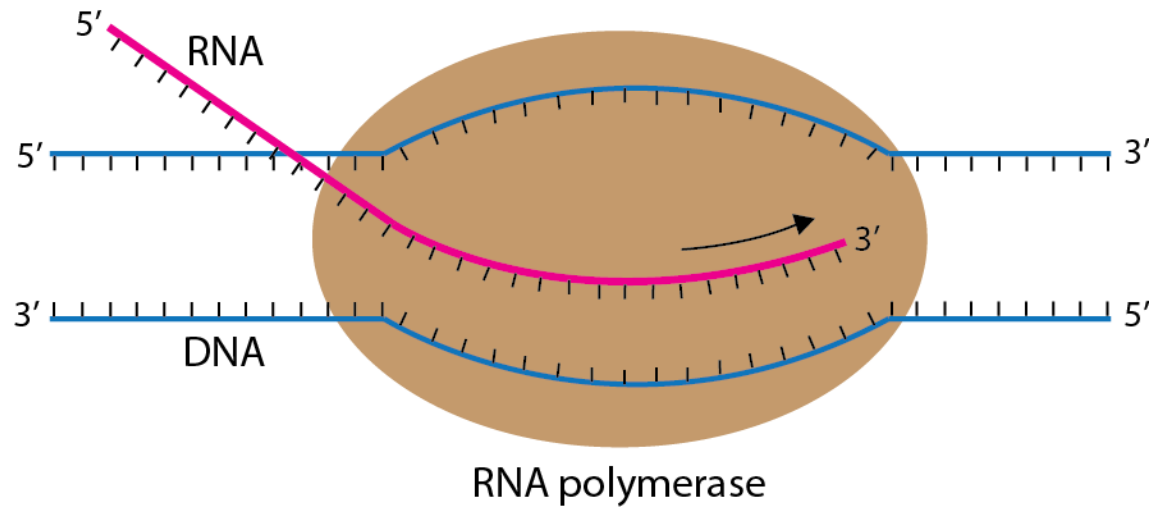
2012



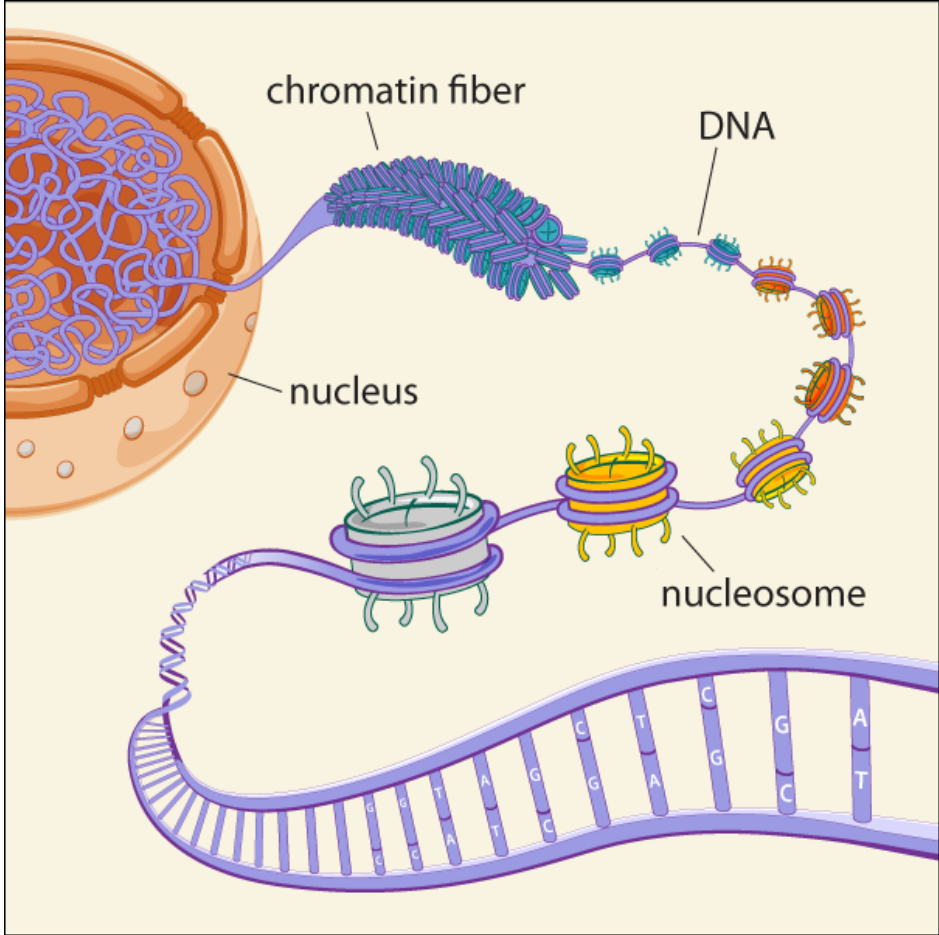
2016-present

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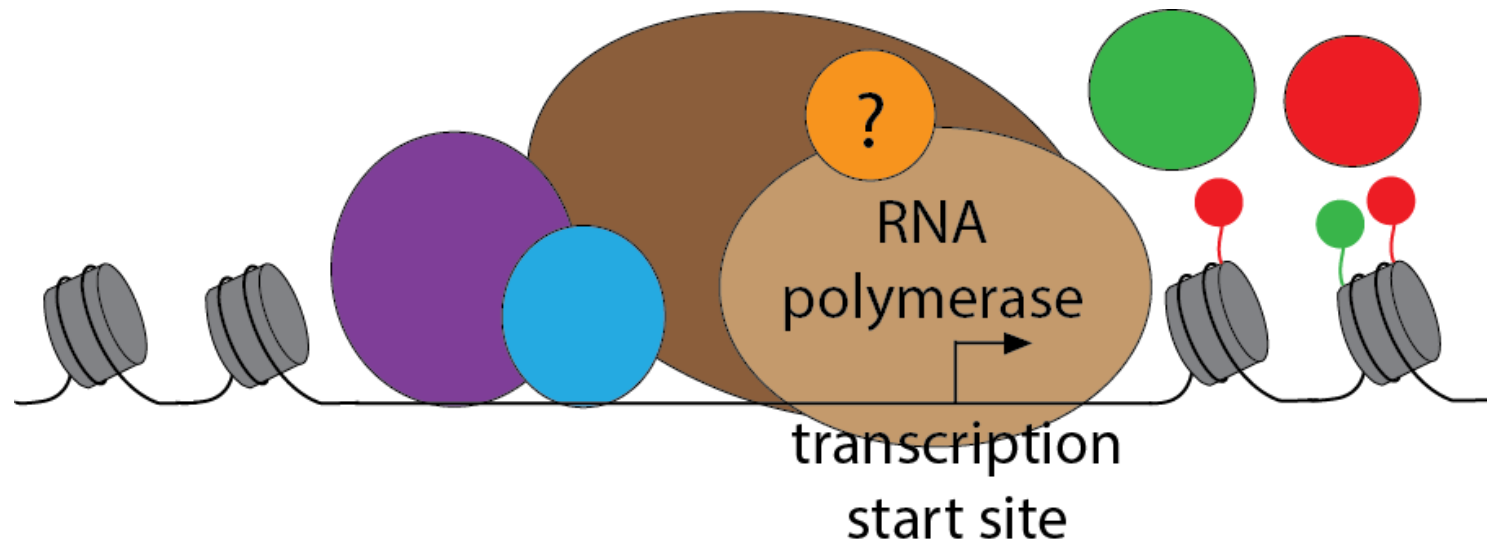


Transcription needs to get around compactly organized DNA

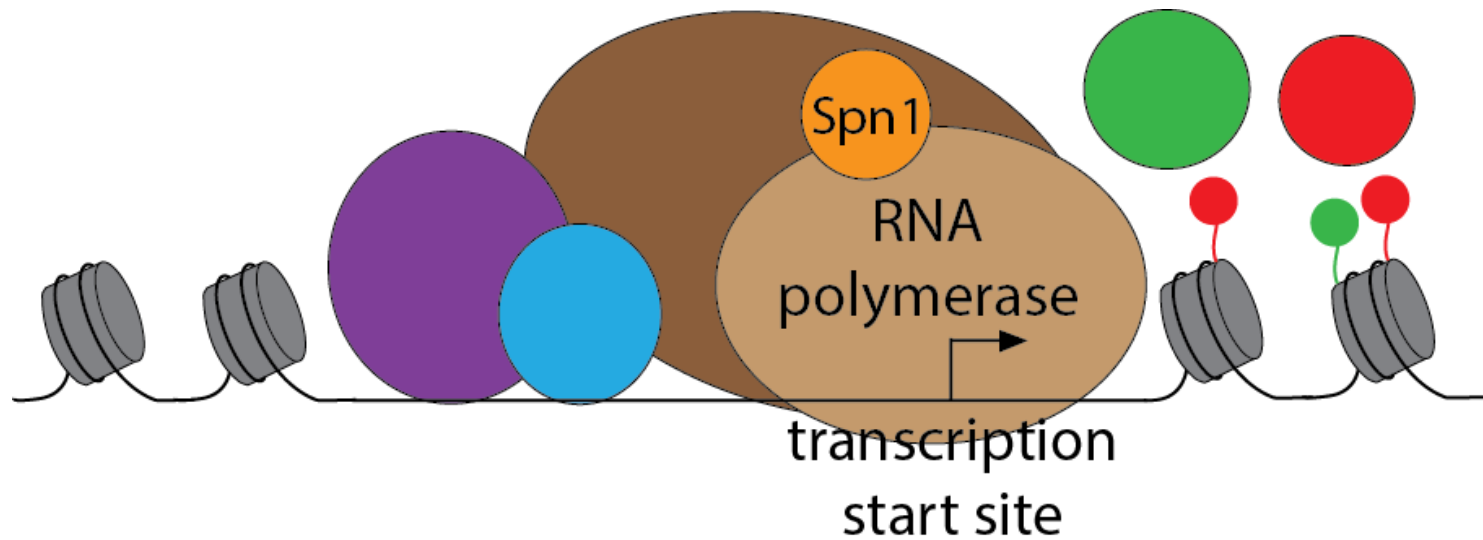


Graham Pardoe

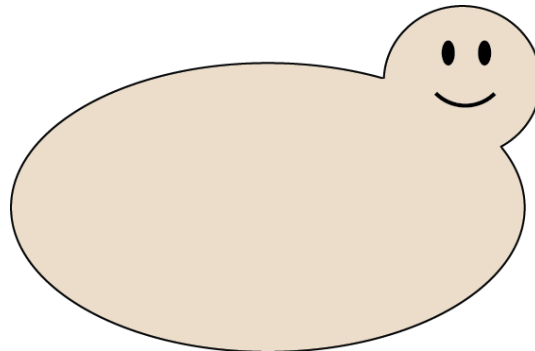
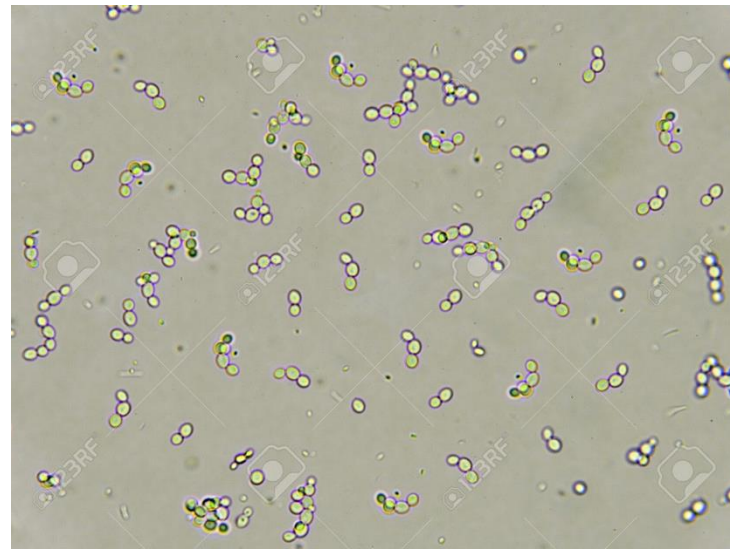
Transcription requires the participation of many proteins



What is the function of Spn1 in transcription?

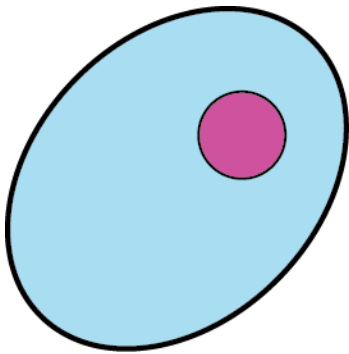


We will investigate the function of Spn1 in transcription using budding yeast

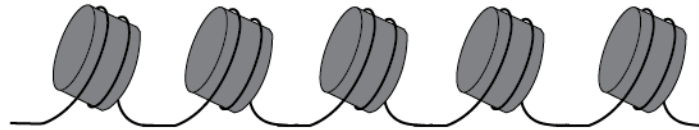


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nucleus

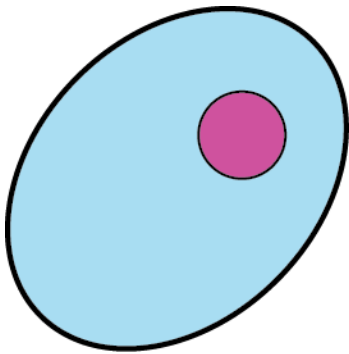


chromatin

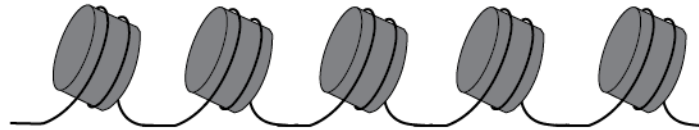


proteins and
processes

Yeast shares many features with humans and is easy to manipulate



nucleus



chromatin

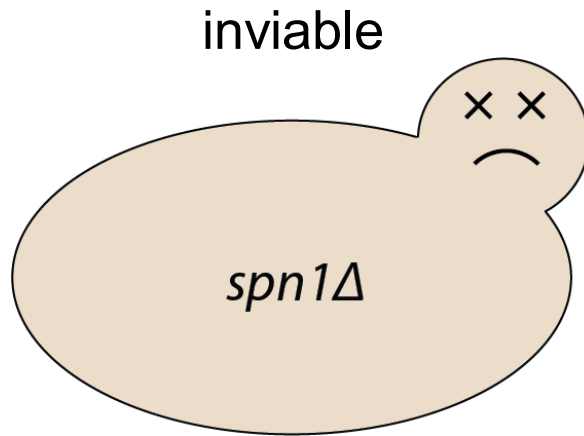


proteins and
processes

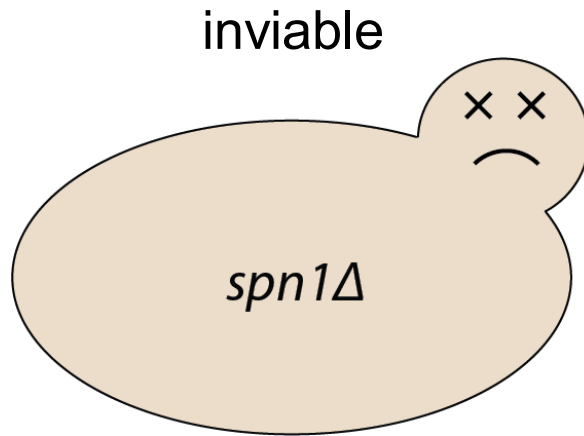
Advantages of studying yeast:

- fast growth
- easy to manipulate
- wealth of genetic tools

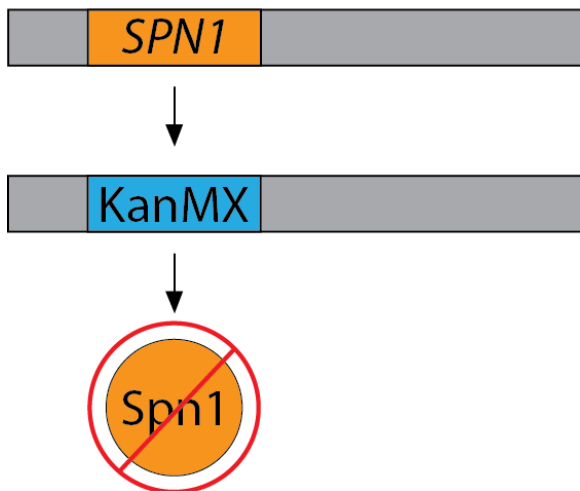
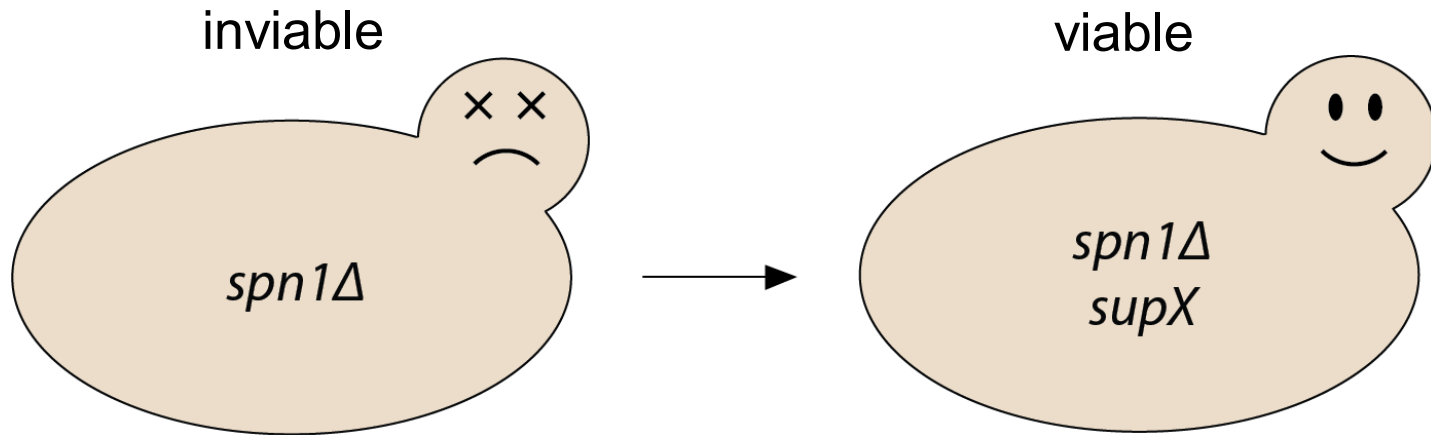
Yeast cells that lack Spn1 are inviable



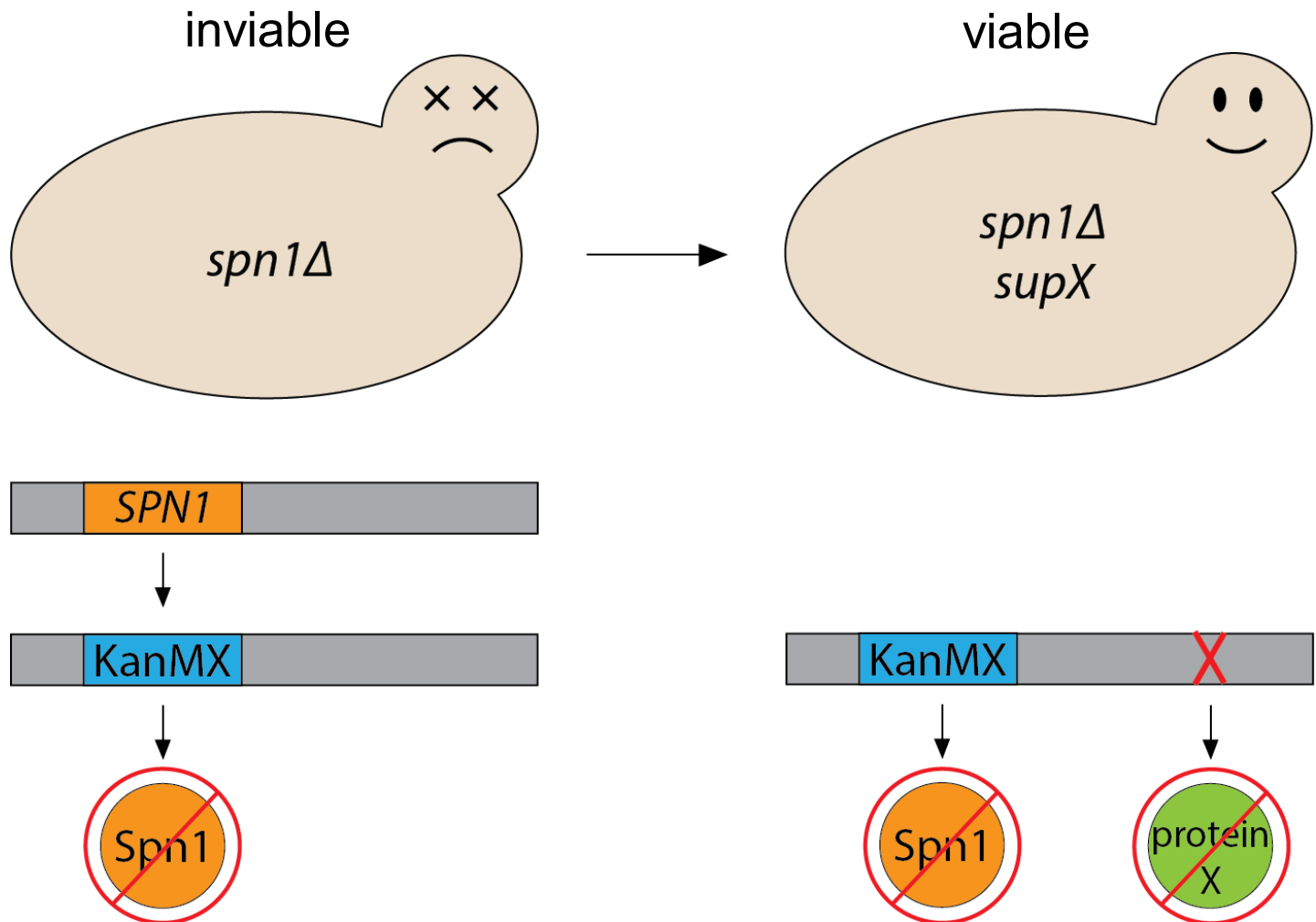
Yeast cells that lack Spn1 are inviable



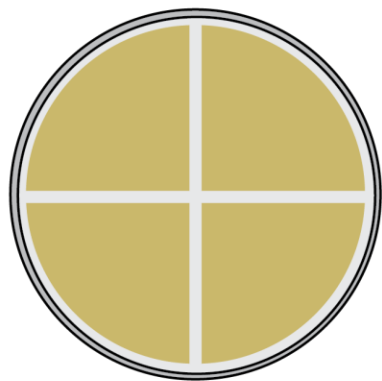
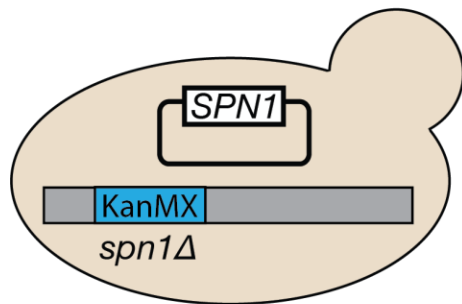
We will look for cells that are viable in absence of Spn1



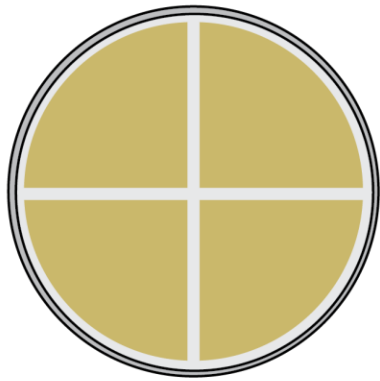
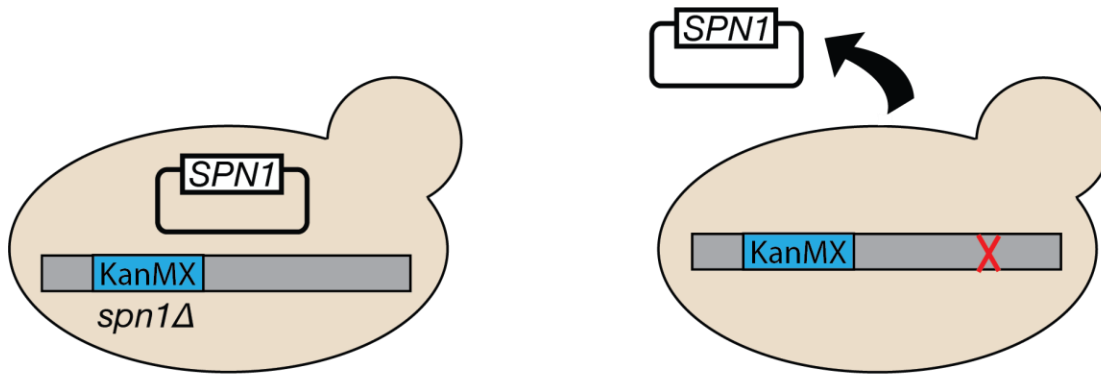
We will look for cells that are viable in absence of Spn1



We will use yeast genetics to identify *spn1* Δ
suppressor mutations

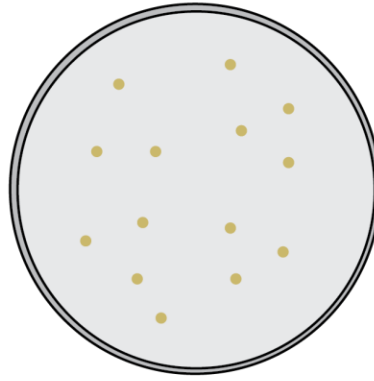


complete media

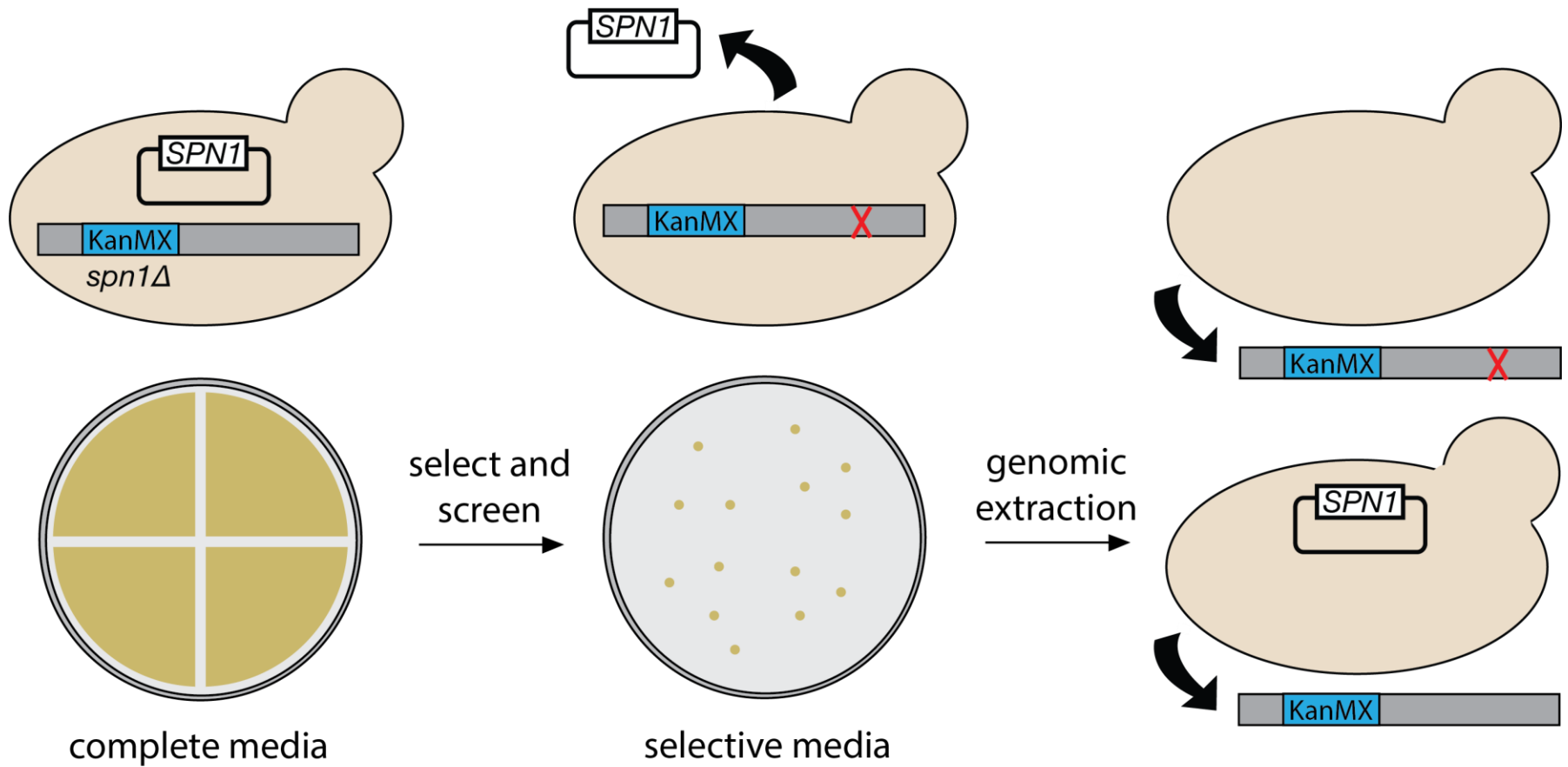


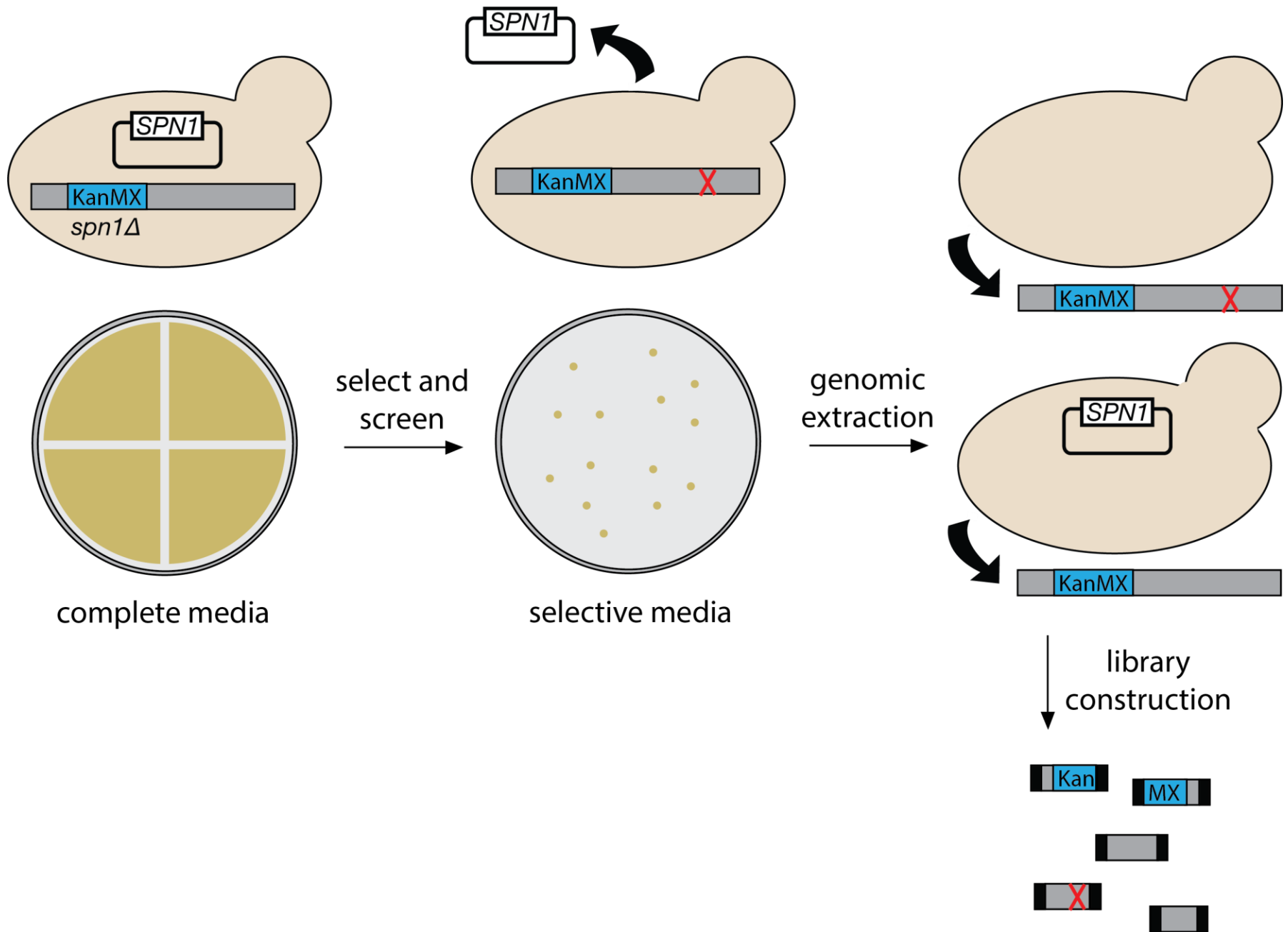
complete media

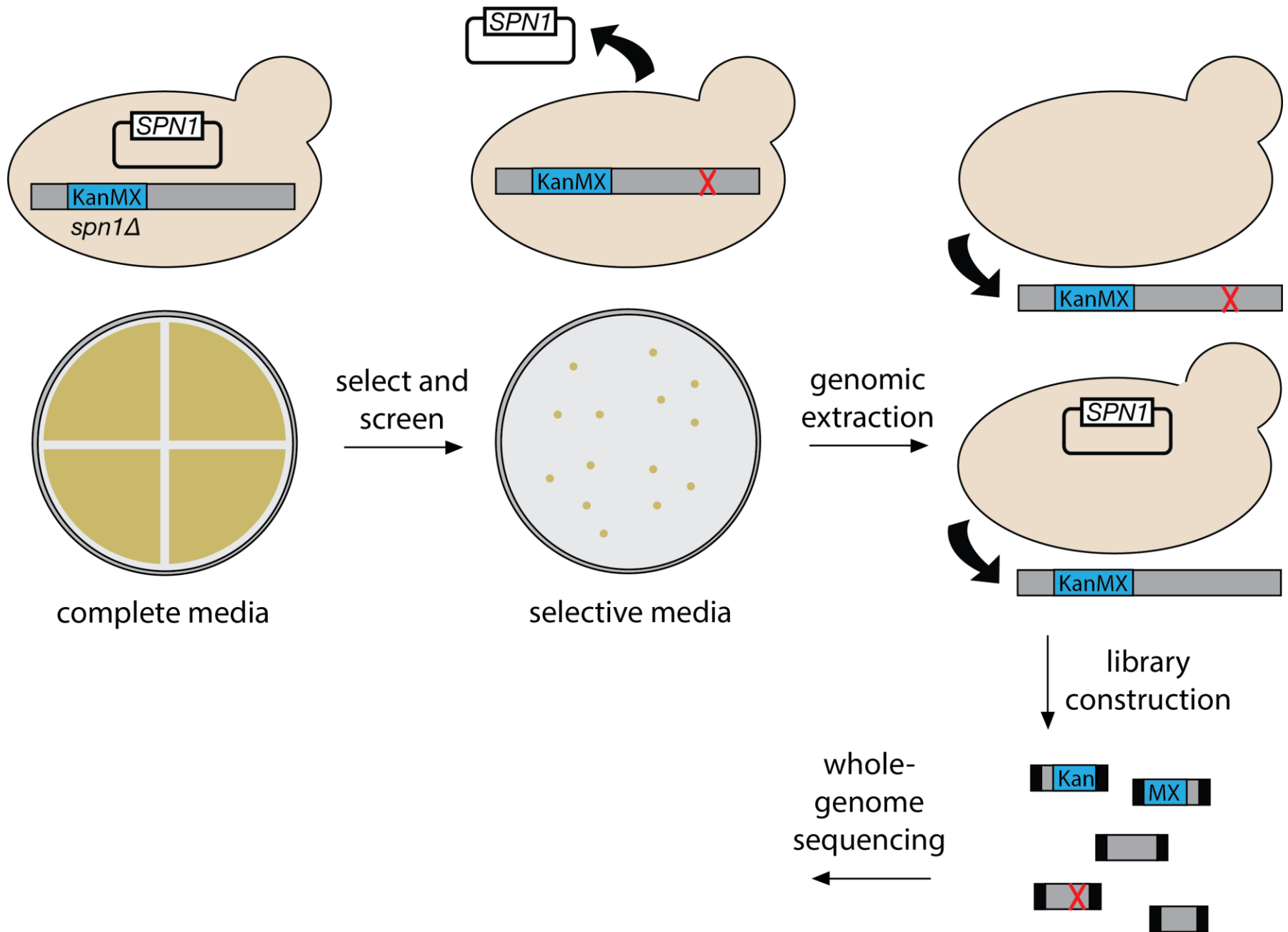
select and
screen
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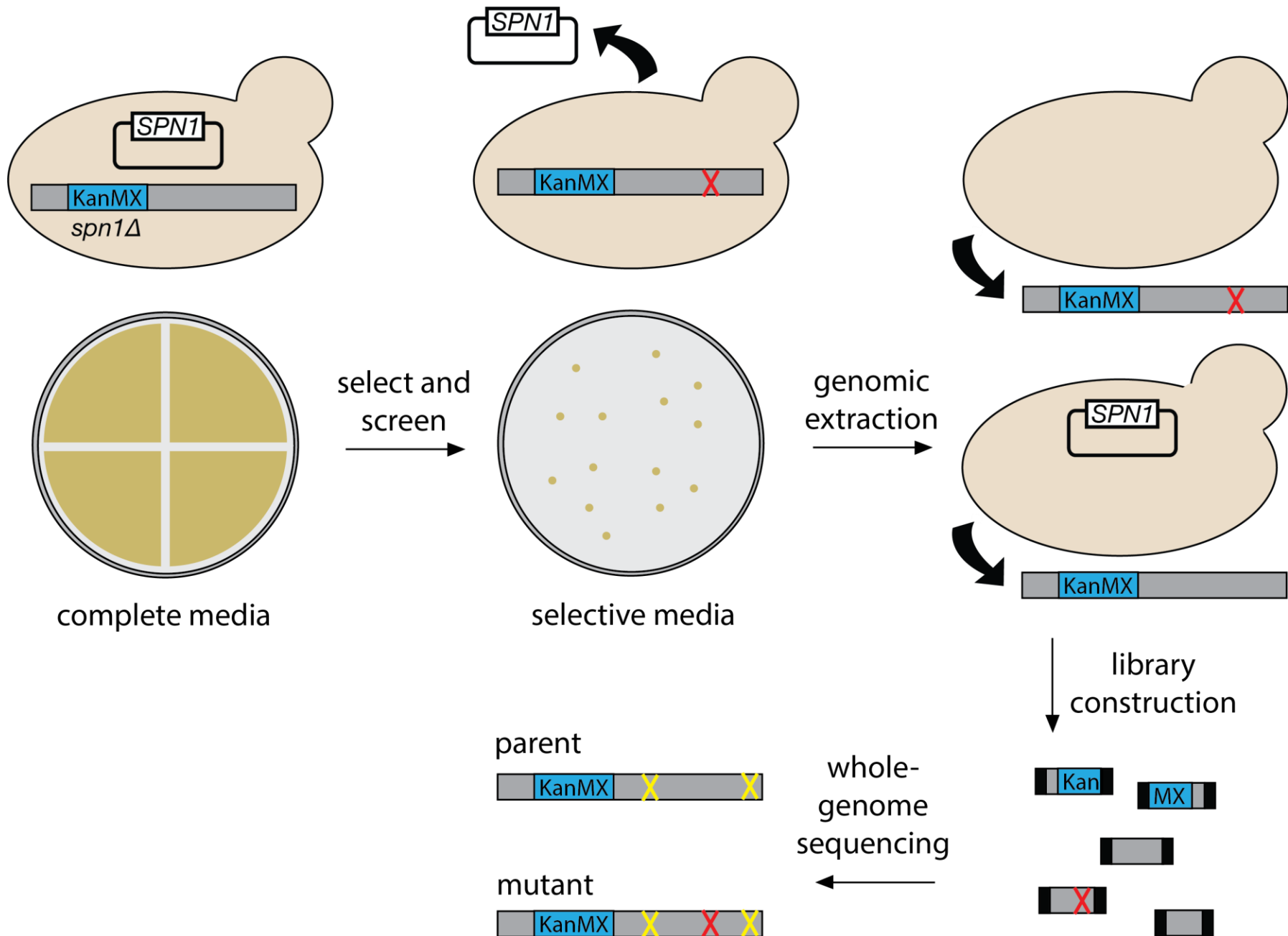


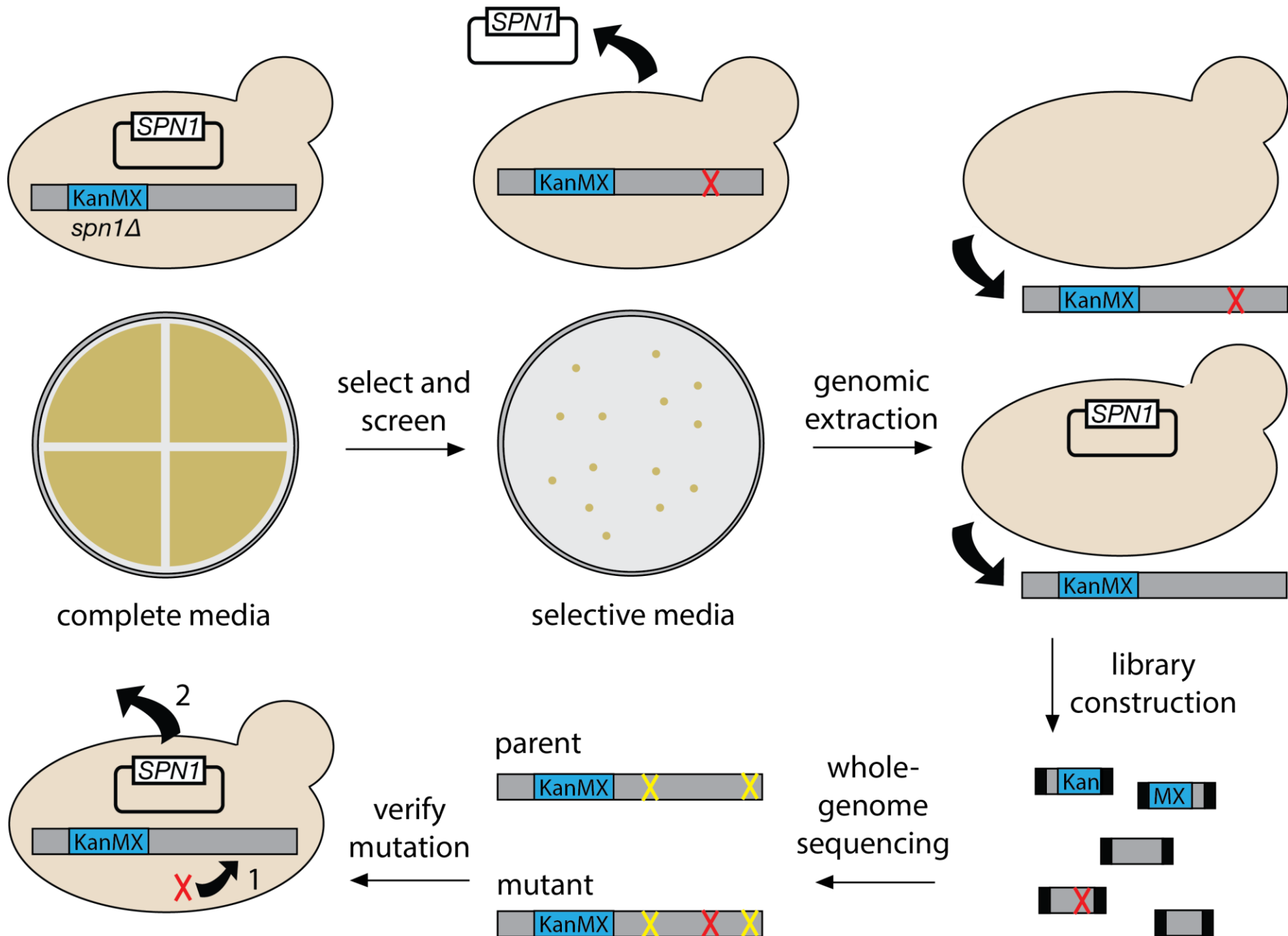
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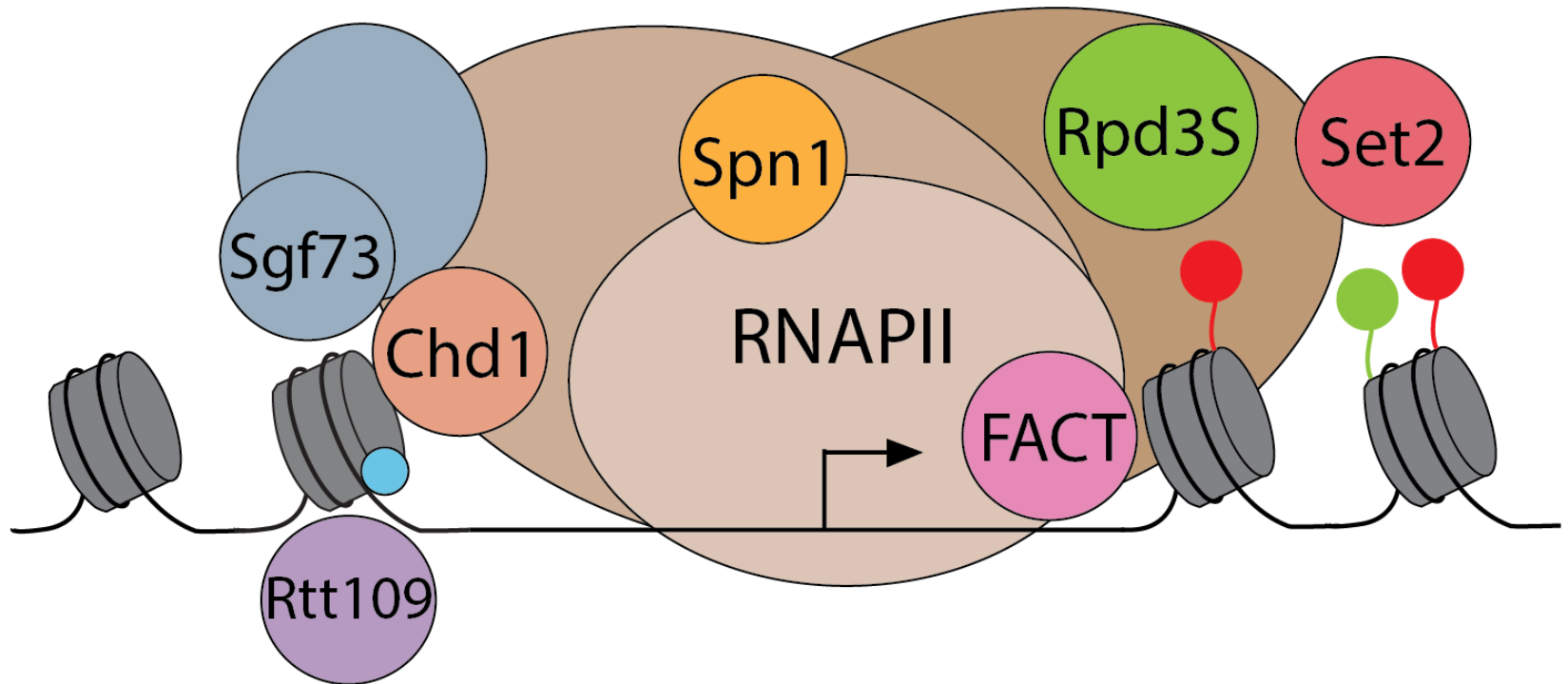








We identified mutations in protein complexes that modify chromatin



Thank you!

