



C4 Therapeutics

# North American Protein Degradation Congress

Rhamy Zeid

February 16, 2021



# Forward-looking Statements and Intellectual Property

## Forward-looking Statements

The following presentation contains forward-looking statements. All statements other than statements of historical fact are forward-looking statements, which are often indicated by terms such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “goal,” “intend,” “look forward to,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” and similar expressions. These forward-looking statements include, but are not limited to, statements regarding the therapeutic potential of C4 Therapeutics, Inc.’s technology and products. These forward-looking statements are not promises or guarantees and involve substantial risks and uncertainties. Among the factors that could cause actual results to differ materially from those described or projected herein include uncertainties associated generally with research and development, clinical trials and related regulatory reviews and approvals, as well as the fact that the product candidates that we are developing or may develop may not demonstrate success in clinical trials. Prospective investors are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. C4 Therapeutics, Inc. undertakes no obligation to update or revise the information contained in this presentation, whether as a result of new information, future events or circumstances or otherwise.

## Intellectual Property

C4 Therapeutics, Inc. owns various registered and unregistered trademarks in the U.S. and internationally, including, without limitation, C4 THERAPEUTICS, our housemark logo, the name of our TORPEDO platform, and the names of our BIDAC and MONODAC degrader products. All trademarks or trade names referred to in this presentation that we do not own are the property of their respective owners. Solely for convenience, the trademarks and trade names in this prospectus are referred to without the symbols ® and ™, but those references should not be construed as any indicator that their respective owners will not assert, to the fullest extent under applicable law, their rights thereto.

# Synovial Sarcoma

## Clear Unmet Need

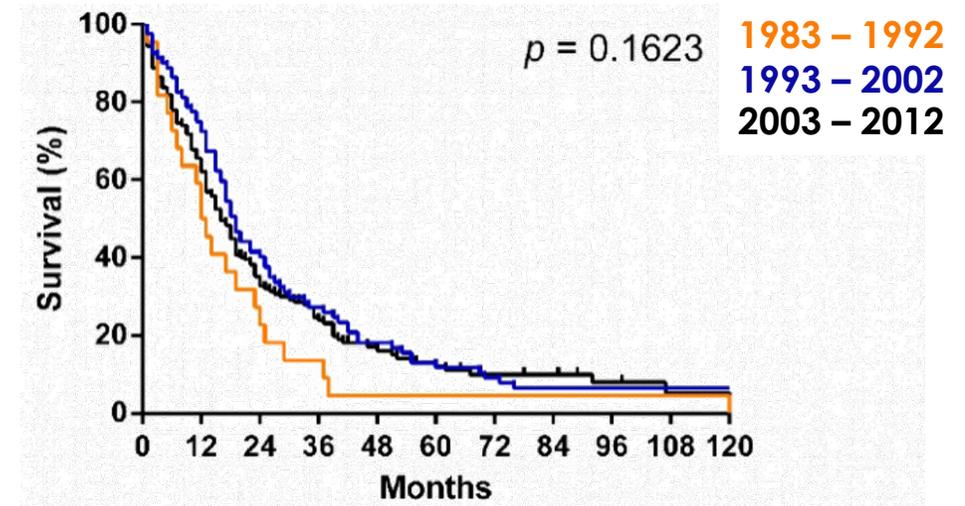
- **Very limited benefit of treatments** for metastatic synovial sarcoma or recurrence following surgery – metastatic **median survival: ~18 months**
- Median age of diagnosis: **34 years old**

## Defined Patient Population

- **~900 US yearly incidence** of synovial sarcoma cases
- **~10% of all soft tissue sarcoma**

## Kaplan-Meier Survival

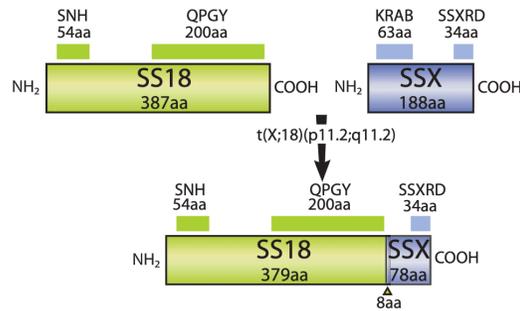
Over time [3 decades]



Wang et al., 2017

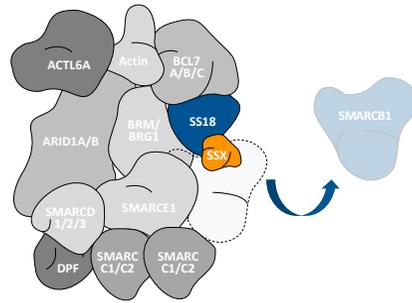
Lack of effective treatment strategies for metastatic disease or reoccurrence following surgery

# Overview of BRD9 as a Therapeutic Target



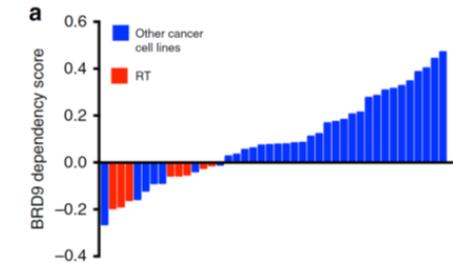
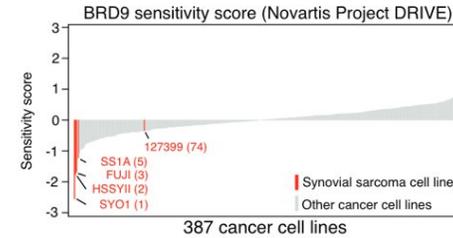
## SS18-SSX fusion

Defining feature that underlies synovial sarcoma pathogenesis



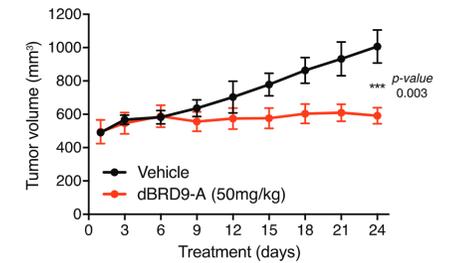
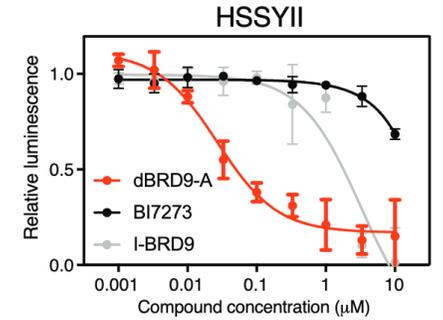
## SMARCB1 eviction

Incorporation of the SS18-SSX fusion ejects SMARCB1 from the BAF complex



## BRD9 dependency

Loss of SMARCB1 results in a synthetic lethal relationship with BRD9

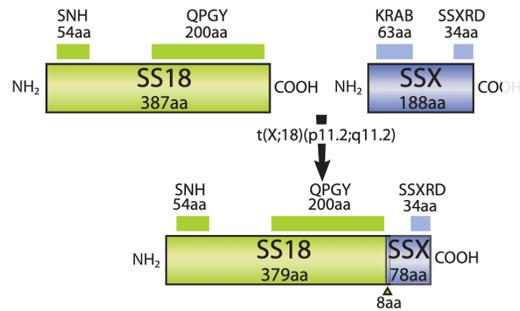


## BRD9 degradation

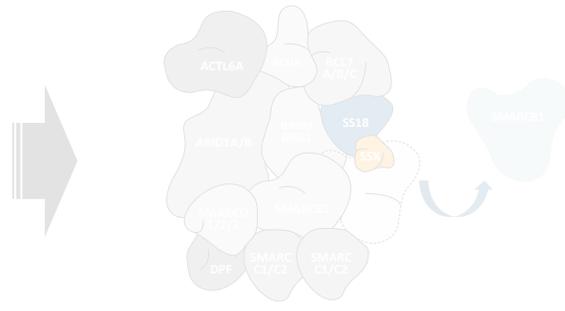
Targeted protein degradation is an effective therapeutic strategy

Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

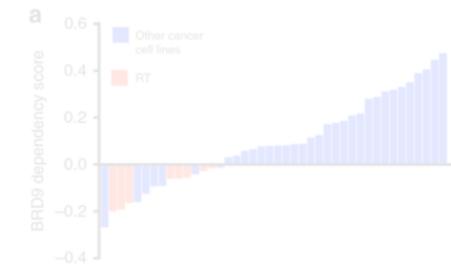
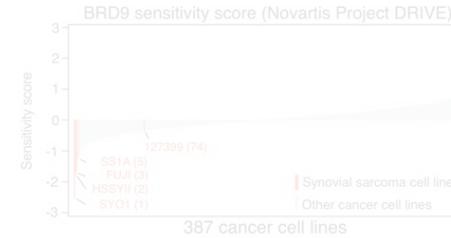
# Overview of BRD9 as a Therapeutic Target



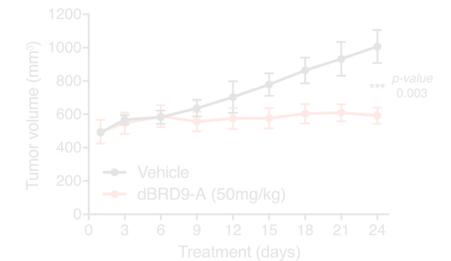
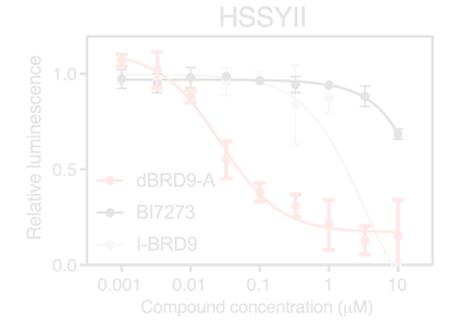
**SS18-SSX fusion**  
Defining feature that underlies synovial sarcoma pathogenesis



**SMARCB1 eviction**  
Incorporation of the SS18-SSX fusion ejects SMARCB1 from the BAF complex



**BRD9 dependency**  
Loss of SMARCB1 results in a synthetic lethal relationship with BRD9



**BRD9 degradation**  
Targeted protein degradation is an effective therapeutic strategy

Sources: Kadach & Crabtree., 2013; McBride et al., 2018, Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

# Synovial Sarcoma – SS18-SSX Fusion

## SS18-SSX fusion

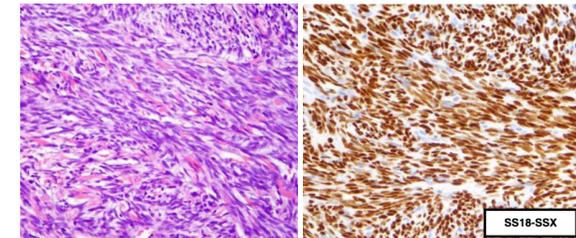
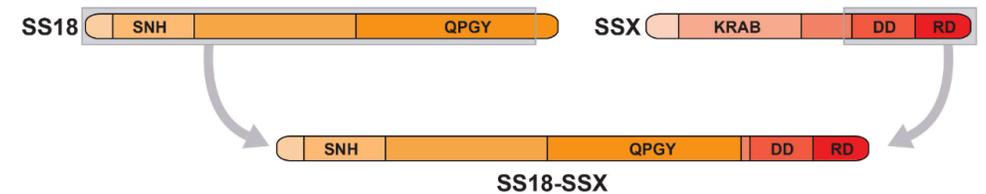
- Non-random chromosomal translocation t(X:18; p11:q11)
- Bona fide driver of pathogenesis

## SS18

- Epigenetic chromatin regulator
- Member of the BAF chromatin remodeling complex

## SSX

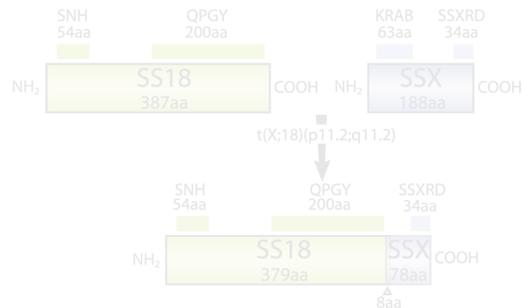
- Potent transcriptional repressor via its KRAB domain (not included within the fusion)



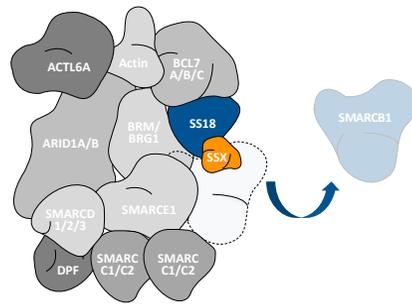
Baranov et al., 2020

SS18-SSX fusion is the defining molecular feature of synovial sarcoma

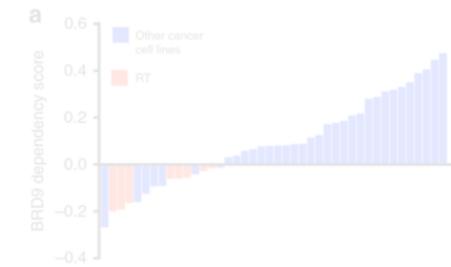
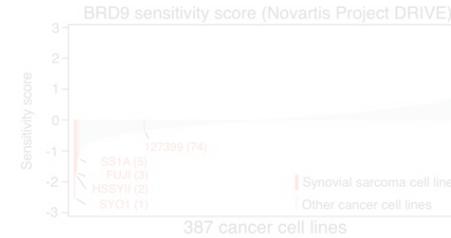
# Overview of BRD9 as a Therapeutic Target



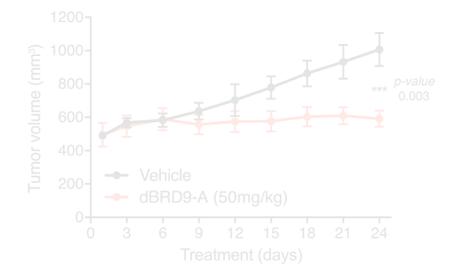
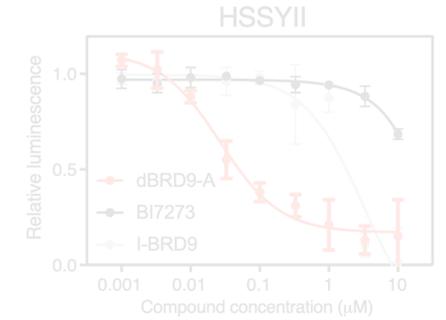
**SS18-SSX fusion**  
Defining feature that underlies synovial sarcoma pathogenesis



**SMARCB1 evicton**  
Incorporation of the SS18-SSX fusion ejects SMARCB1 from the BAF complex



**BRD9 dependency**  
Loss of SMARCB1 results in a synthetic lethal relationship with BRD9



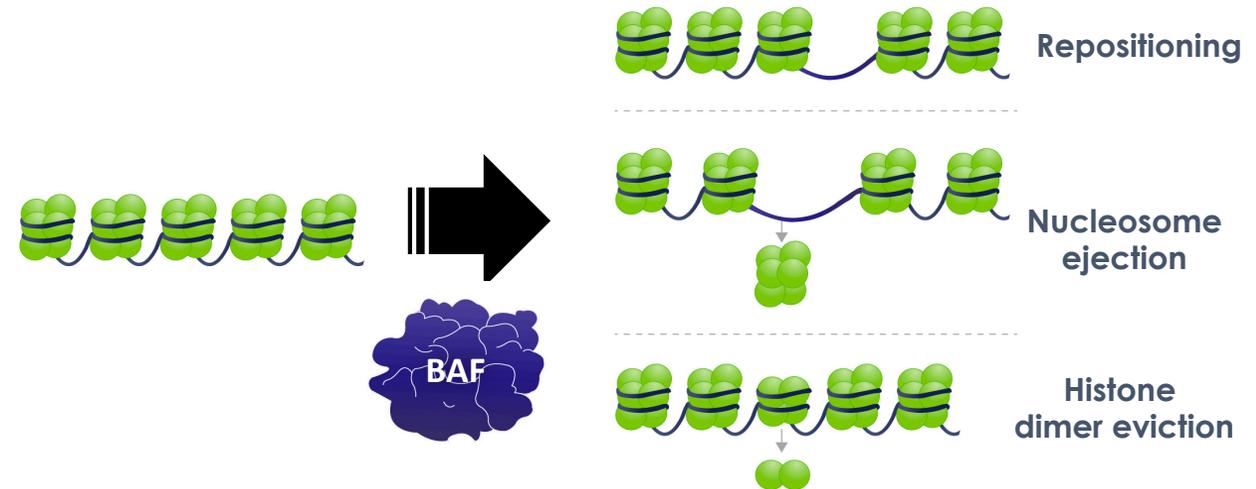
**BRD9 degradation**  
Targeted protein degradation is an effective therapeutic strategy

Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

# BAF Complexes are Critical Regulators of Chromatin State

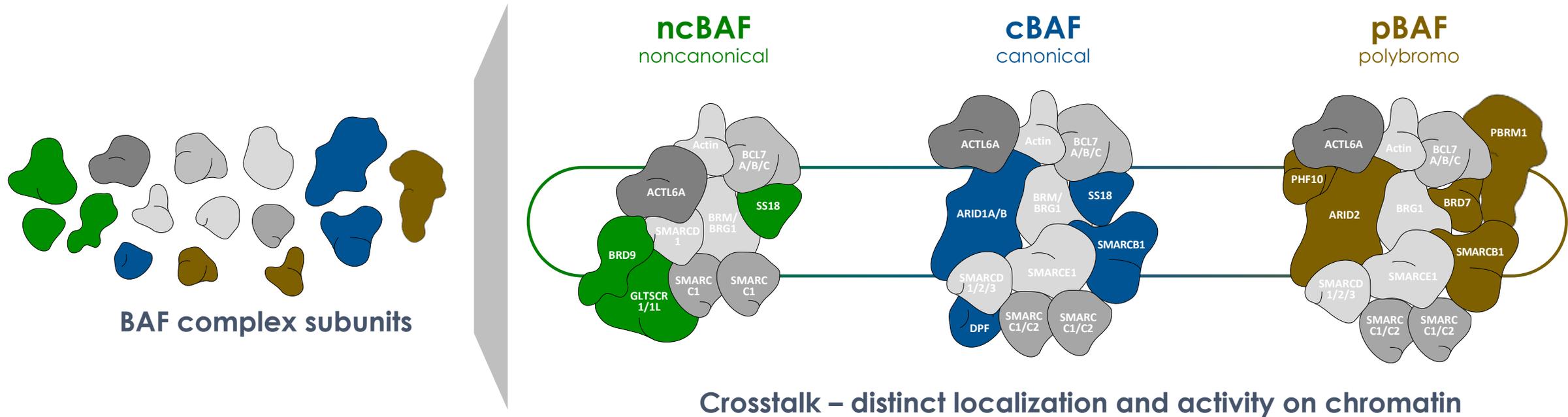
## BAF (Brg/Brahma associated factors) or mSWI/SNF complexes

- Multi sub-unit (~15 proteins) ATP dependent chromatin remodeling complexes
- Compaction and decompaction of DNA in the nucleus
- Enables replication, selective gene expression and repression



Adapted Clapier et al., 2017

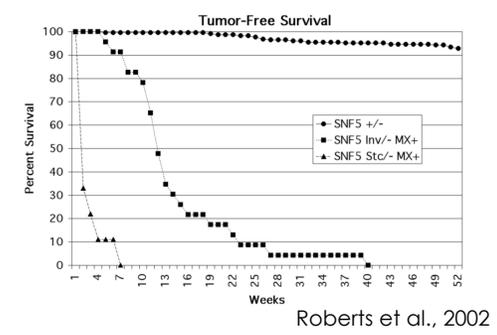
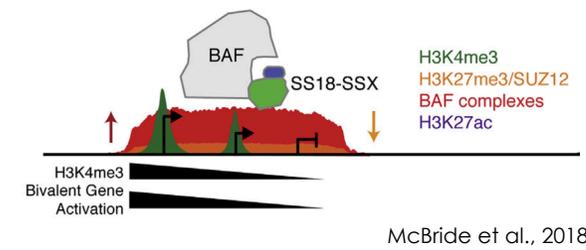
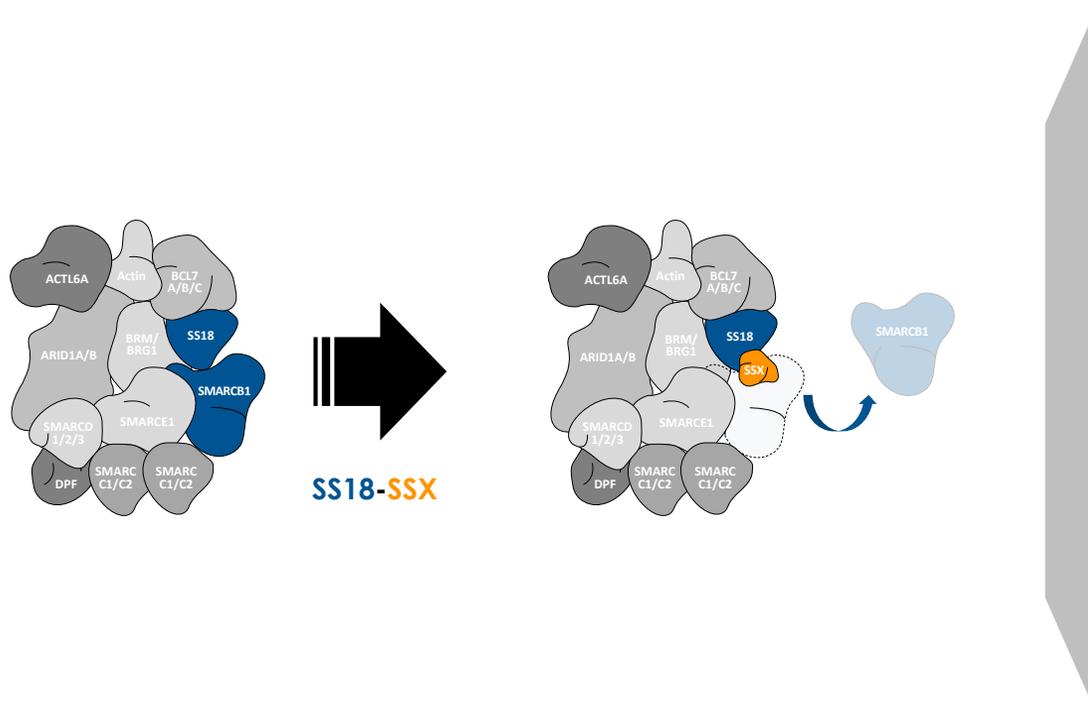
# Three Versions of the BAF Complex



Collaborative interplay between BAF complexes to collectively regulate chromatin state

Sources: Alpsy et al., 2018; Gatchalian et al., 2018; Brien et al., 2018; Michel et al., 2018; Wang et al., 2019; Mashtalir et al., 2018; Inoue et al., 2019

# SS18-SSX Fusion Incorporation into the BAF Complex

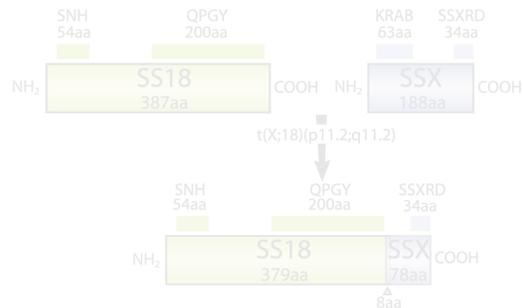


**SS18-SSX fusion oncogenic program**

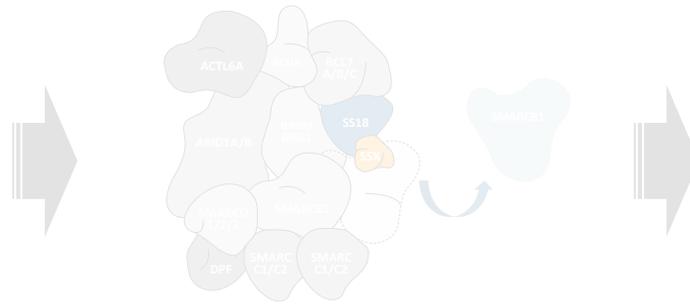
**Loss of SMARCB1 tumor suppressor function**

SS18-SSX fusion incorporation results in the ejection of SMARCB1, rendering the cBAF complex dysfunctional and driving an oncogenic state

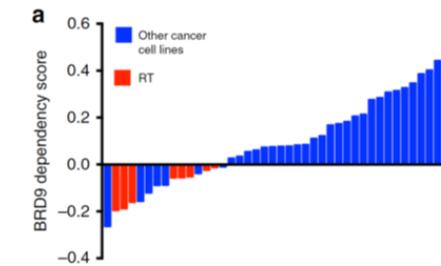
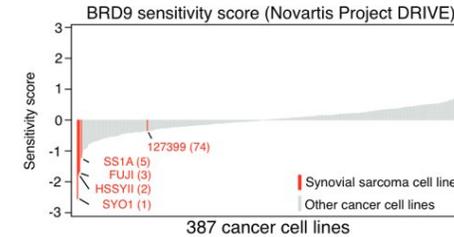
# Overview of BRD9 as a Therapeutic Target



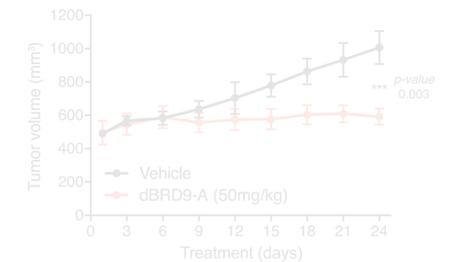
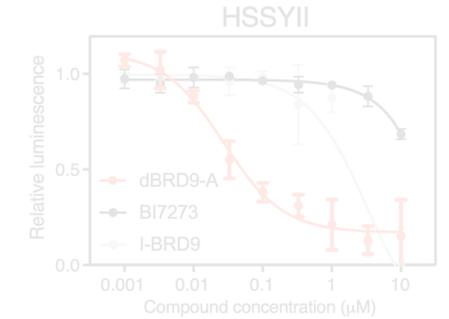
**SS18-SSX fusion**  
Defining feature that underlies synovial sarcoma pathogenesis



**SMARCB1 eviction**  
Incorporation of the SS18-SSX fusion ejects SMARCB1 from the BAF complex



**BRD9 dependency**  
Loss of SMARCB1 results in a synthetic lethal relationship with BRD9



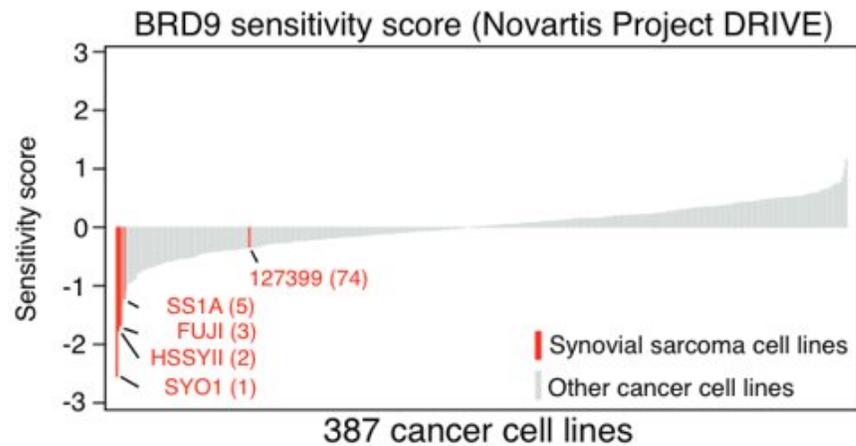
**BRD9 degradation**  
Targeted protein degradation is an effective therapeutic strategy

Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

# BRD9 is a Selective Dependency in SMARCB1 Perturbed Contexts

## Synovial Sarcoma

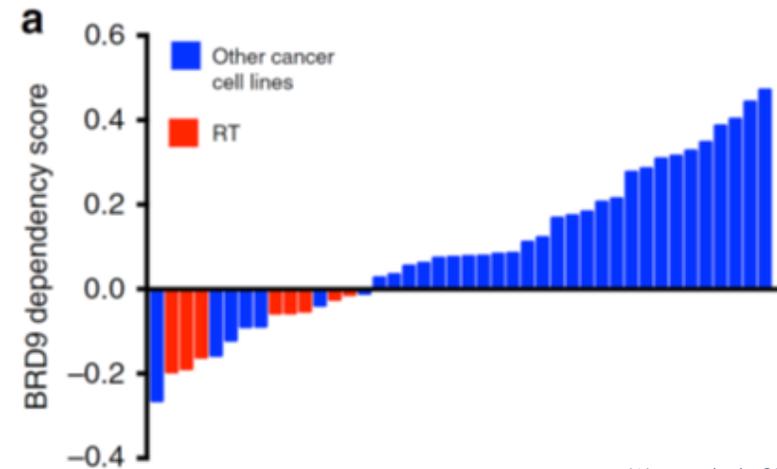
SS18-SSX fusion driven ejection of SMARCB1



Briens et al., 2018

## Malignant Rhabdoid Tumor

Homozygous SMARCB1 deletion



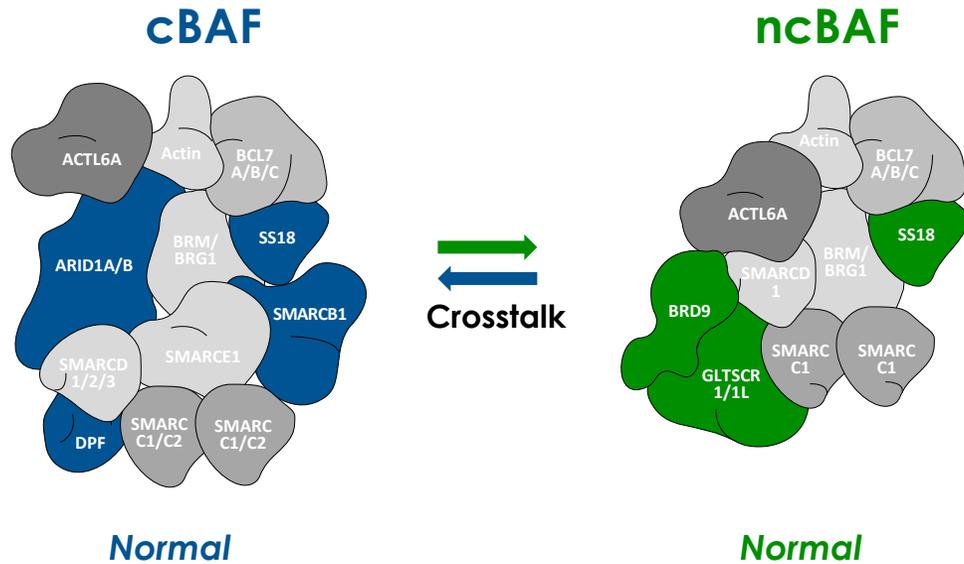
Wang et al., 2019

Genome-wide loss of function CRISPR screens identify BRD9 as a unique dependency in synovial sarcoma and malignant rhabdoid tumor cell lines



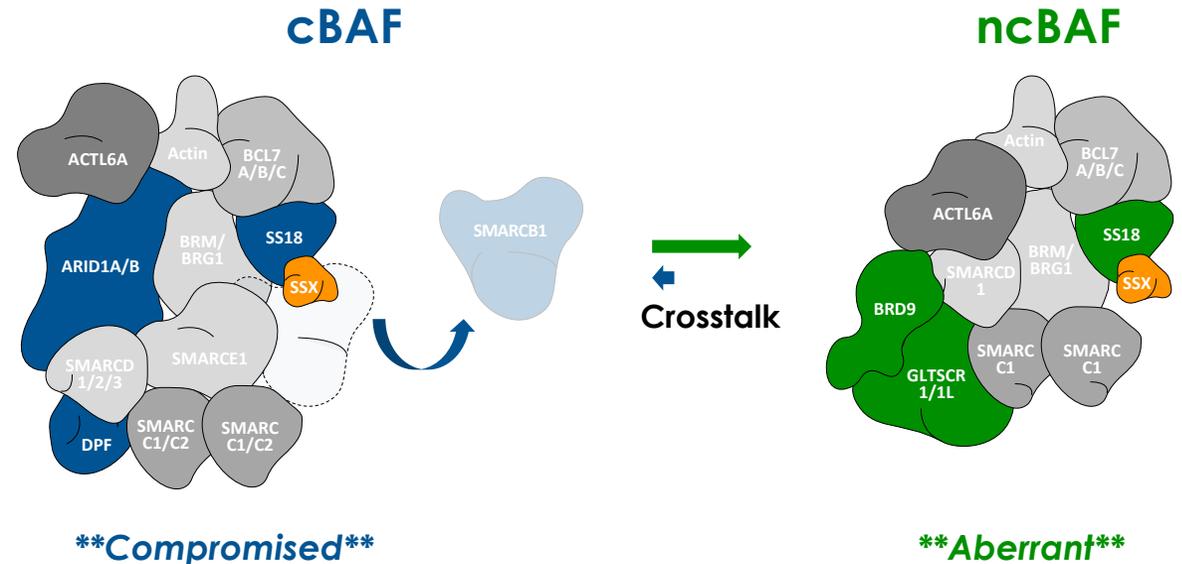
# BRD9 Dependency in Synovial Sarcoma

## NORMAL CELLS



- Normal chromatin structure
- Wild type transcription

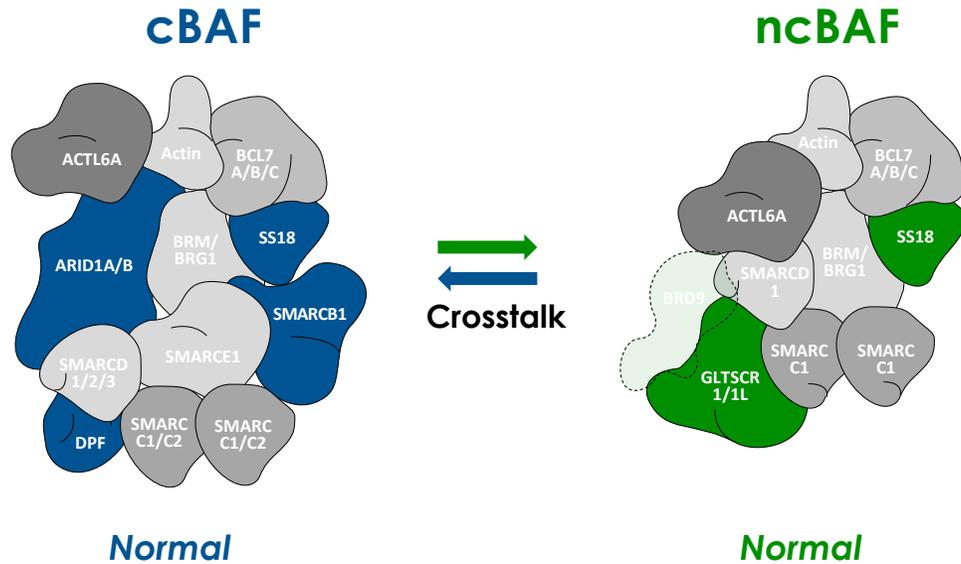
## SYNOVIAL SARCOMA CELLS



- SMARCB1 null state
- Aberrant chromatin structure
- Oncogenic transcription

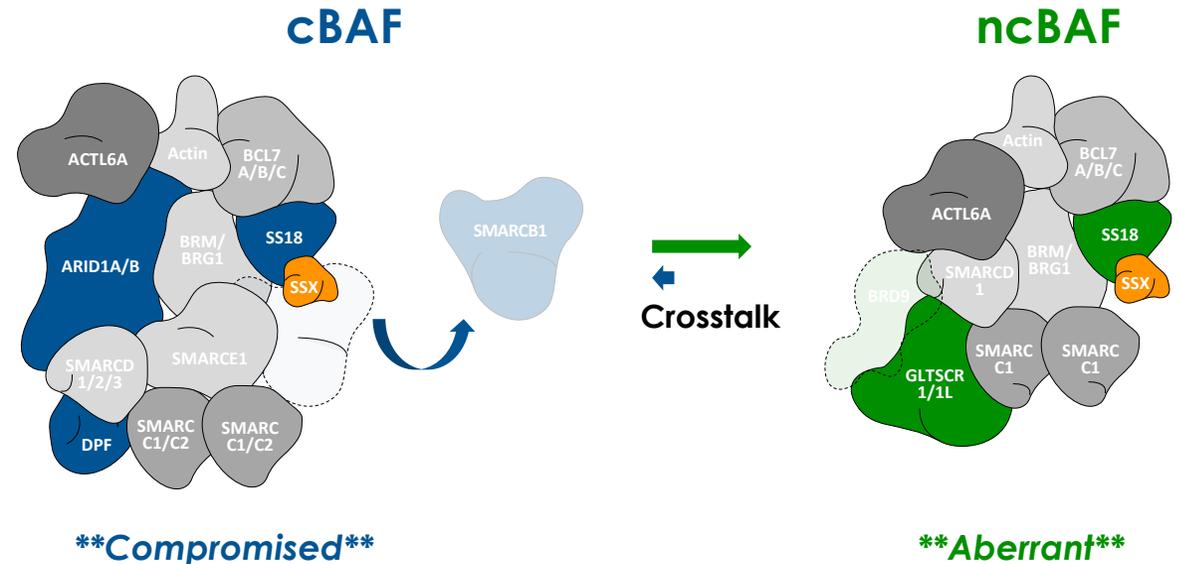
# BRD9 Dependency in Synovial Sarcoma

## NORMAL CELLS



- Normal chromatin structure
  - Wild type transcription
- Normal cells spared**

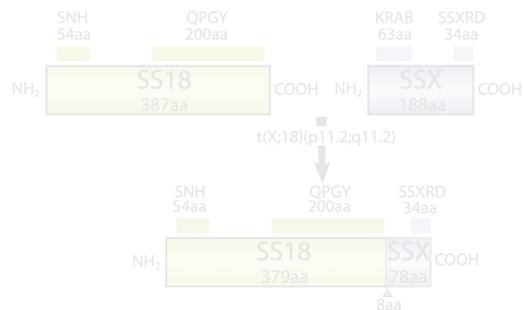
## SYNOVIAL SARCOMA CELLS



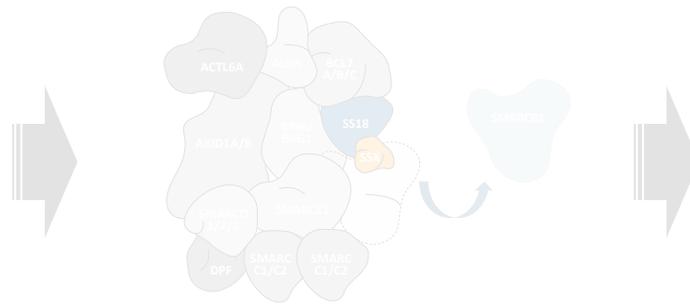
- Onco
- Anti-tumor response via eliminating oncogenic ncBAF activity in BAF perturbed state**

Target rationale: The role of BRD9 in the ncBAF complex results in a synthetic lethal dependency in SS18-SSX fusion driven synovial sarcoma

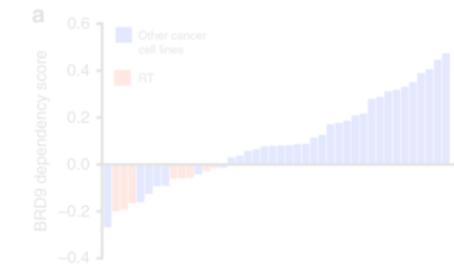
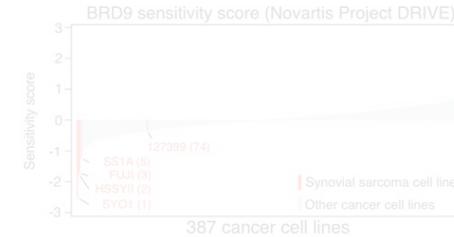
# Overview of BRD9 as a Therapeutic Target



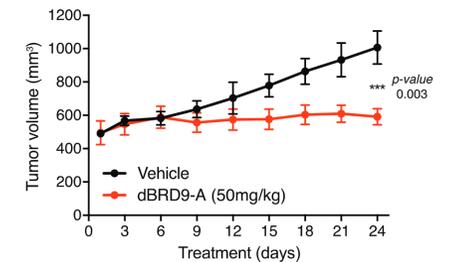
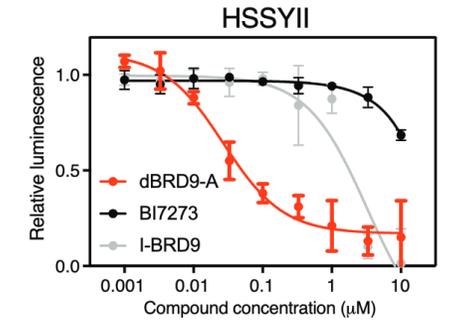
**SS18-SSX fusion**  
Defining feature that underlies synovial sarcoma pathogenesis



**SMARCB1 eviction**  
Incorporation of the SS18-SSX fusion ejects SMARCB1 from the BAF complex



**BRD9 dependency**  
Loss of SMARCB1 results in a synthetic lethal relationship with BRD9

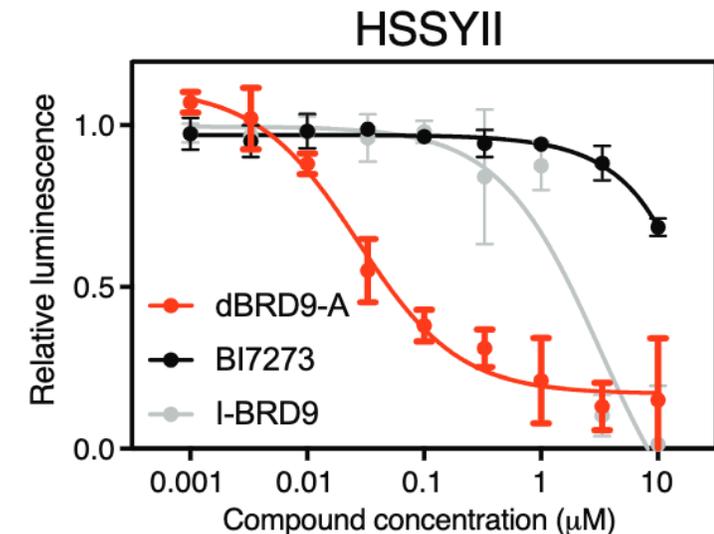
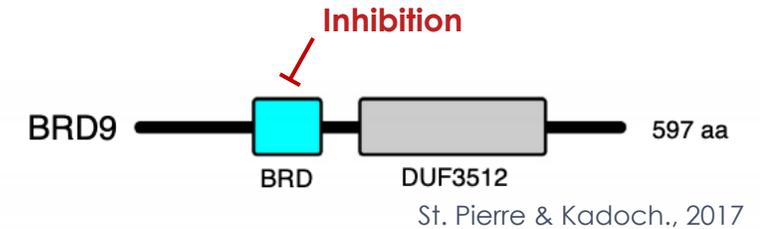


**BRD9 degradation**  
Targeted protein degradation is an effective therapeutic strategy

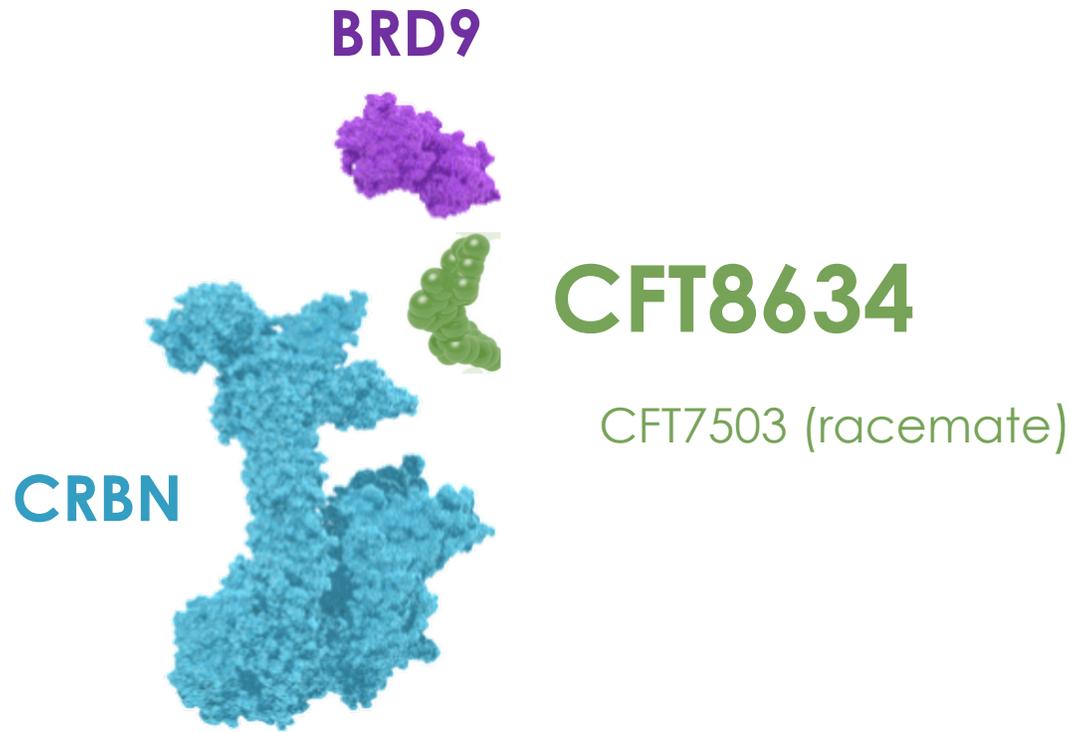
Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

# Targeted Protein Degradation of BRD9 is an Effective Therapeutic Strategy

- Small molecule inhibition of BRD9 is ineffective
  - Limited to the disruption of acetyl-lysine bromodomain reader function alone
- Targeted protein degradation results in the complete loss of BRD9
  - Maximal disruption of the ncBAF complex oncogenic activity



# Opportunity to Develop a First and Best-in-class BRD9 Degradator

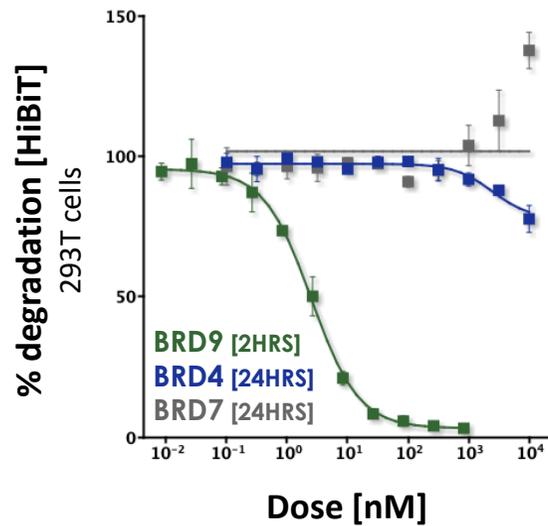


- Degradation activity
  - Potent
  - Selective
  - Complete
  - Durable
- Complete disruption of oncogenic BRD9/ncBAF activity
  - Selective *in vitro* growth inhibitory activity in human synovial sarcoma cell lines
  - Complete tumor growth inhibition across CDX and PDX models of synovial sarcoma
- Enabling pharmacokinetic profile and drug properties
  - Oral dosing
  - Dosing frequency flexibility

# CFT8634 – Degradation Activity

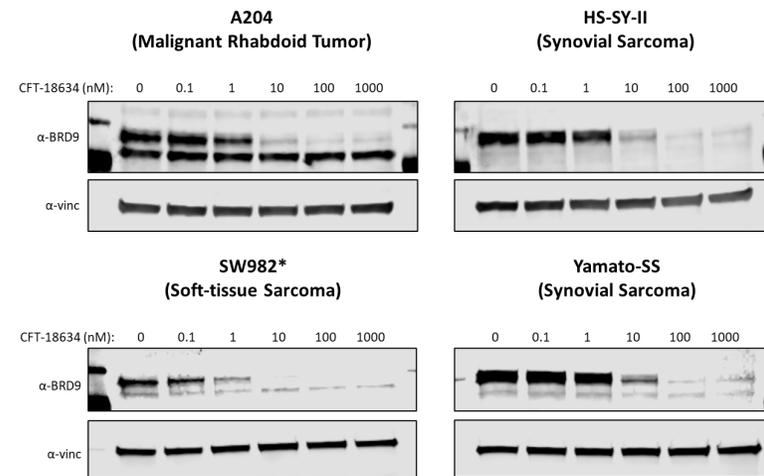
## Dose Response Degradation

Engineered 293T HiBiT cell lines



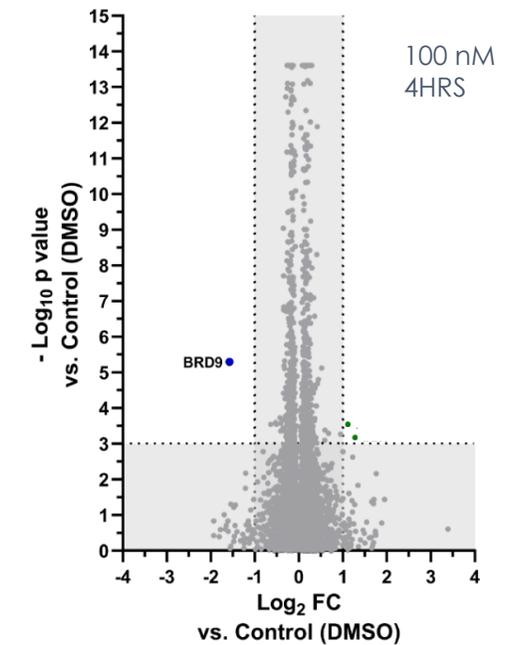
## Degradation Across Cellular Contexts

Endogenous degradation



## Degradation Selectivity

Global proteomic profiling

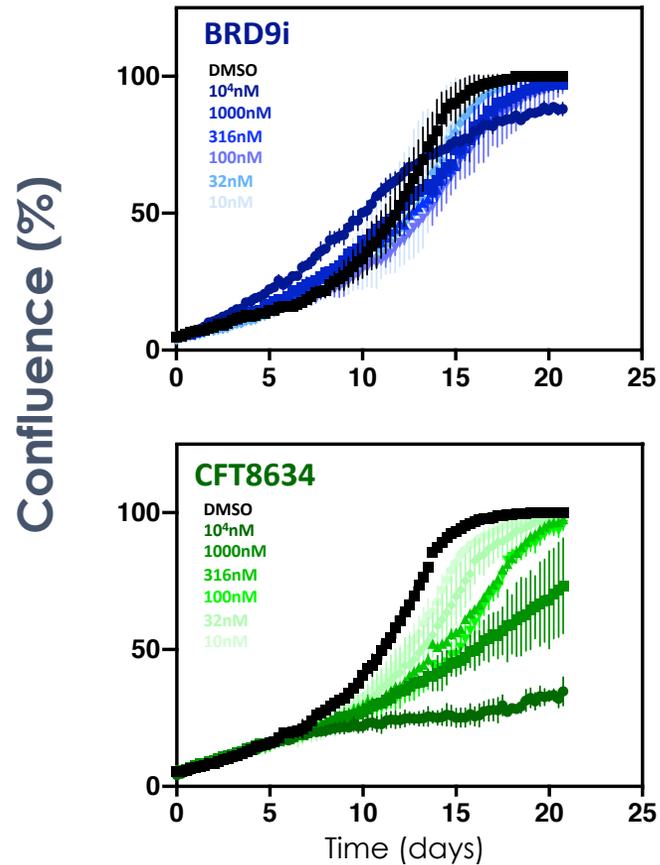


Potent, complete, selective, and durable dose responsive BRD9 degradation

# Cellular Consequences of BRD9 Degradation

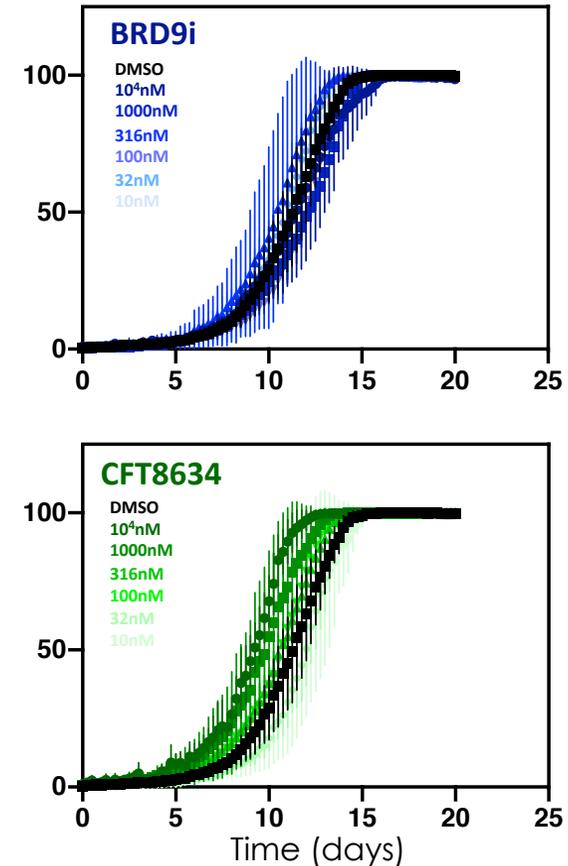
## Yamato [SS18-SSX fusion; BAF perturbed]

Single dose long term growth evaluation



## SW982 [BAF wildtype]

Single dose long term growth evaluation

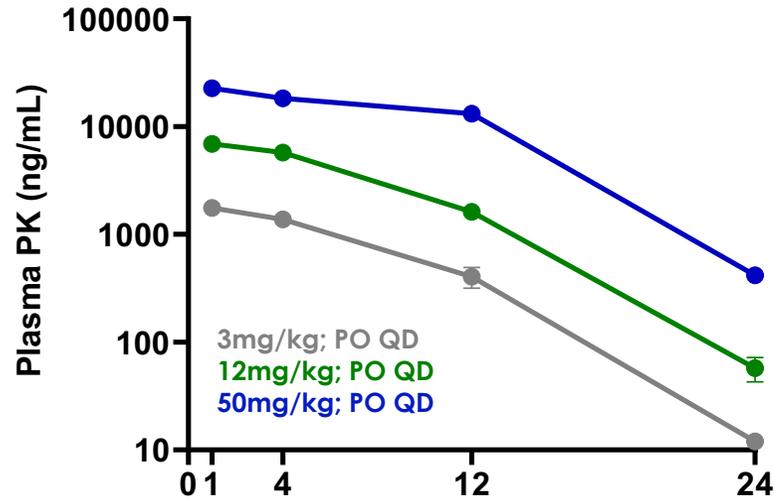


Degradation induced selective growth inhibition in BAF perturbed synovial sarcoma cells

# In vivo properties – Pharmacokinetics (PK) and Pharmacodynamics (PD)

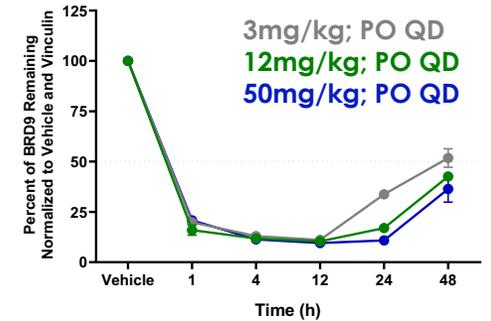
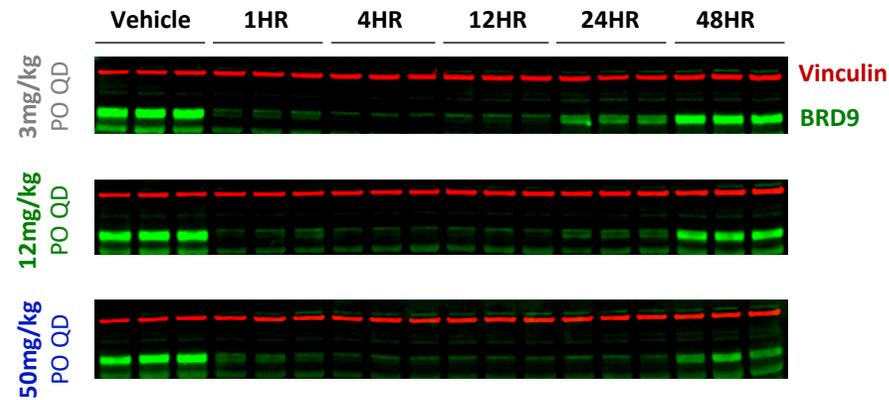
## Tumor PK

Synovial Sarcoma CDX (Yamato-SS)



## Tumor PD

BRD9 Degradation in Synovial Sarcoma Tumors

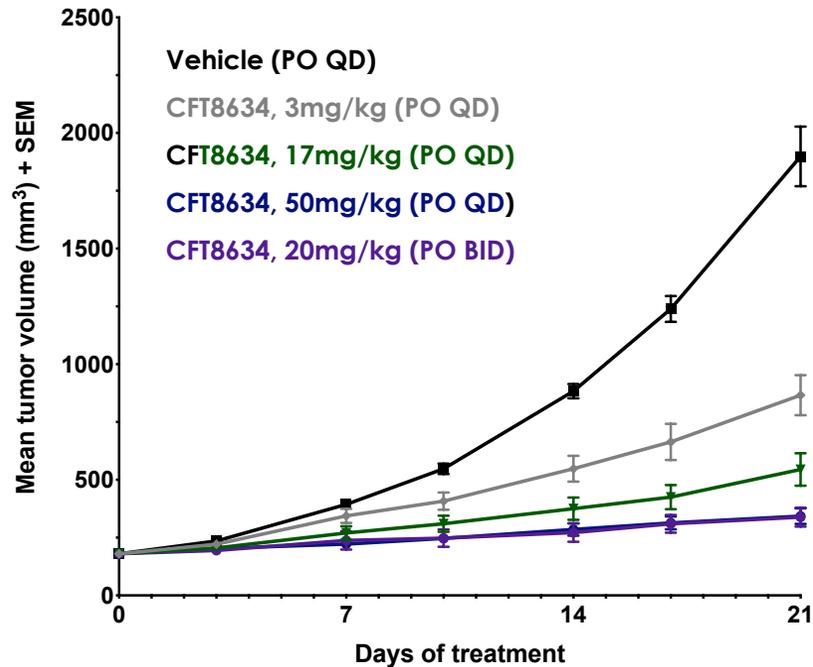


CFT8634 induces deep and durable BRD9 degradation upon oral administration in a xenograft model of synovial sarcoma

# In vivo Activity – Efficacy and Tolerability in Synovial Sarcoma

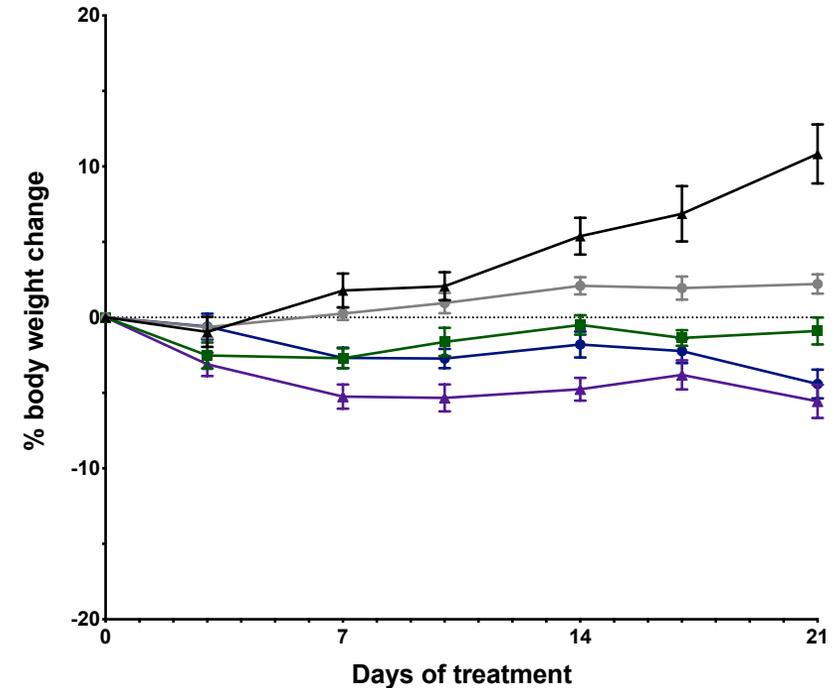
## Efficacy

Synovial Sarcoma CDX (Yamato-SS)



## Tolerability

Synovial Sarcoma CDX (Yamato-SS)

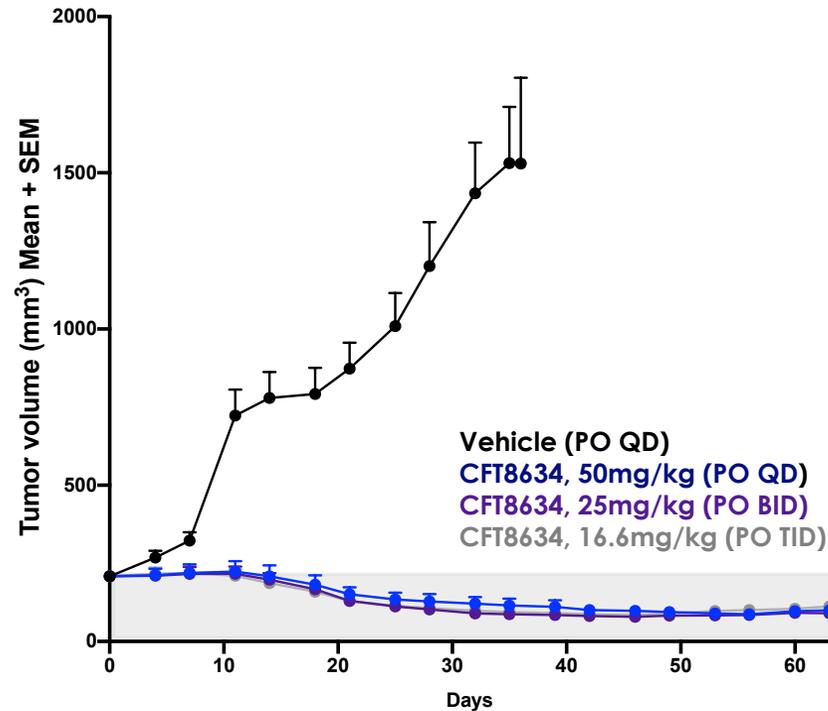


CFT8634 demonstrates dose dependent efficacy in synovial sarcoma and is well tolerated

# In vivo Activity – Efficacy and Tolerability in Synovial Sarcoma

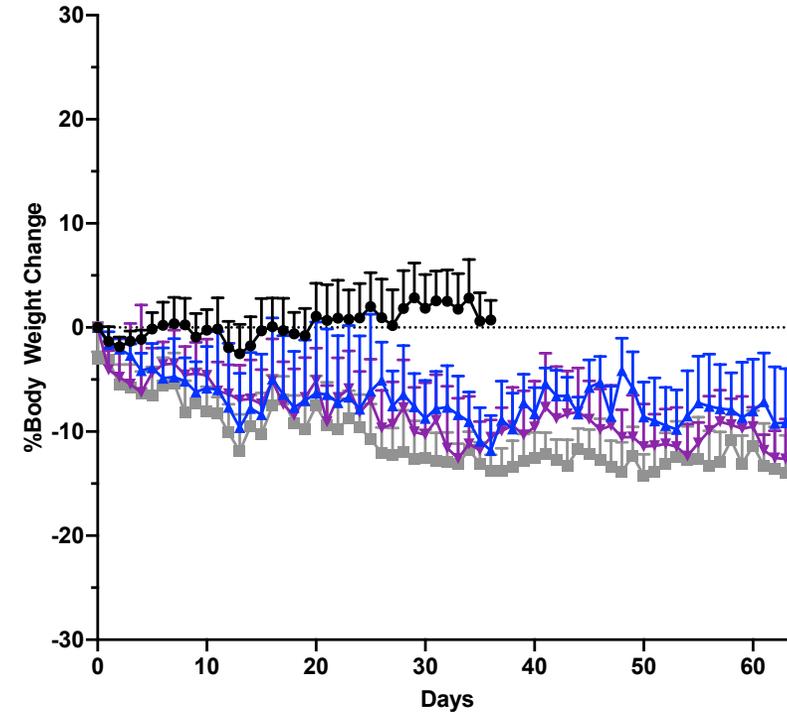
## Efficacy

Synovial Sarcoma PDX (SA13412)



## Tolerability

Synovial Sarcoma PDX (SA13412)

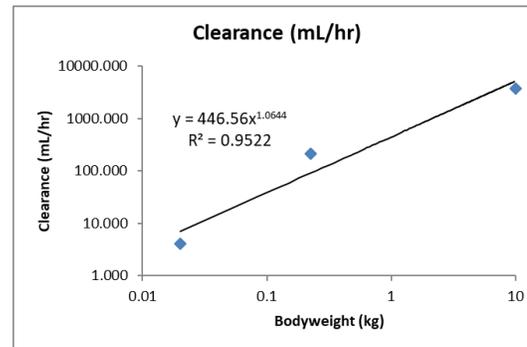


**CFT8634 is efficacious (durable, regressions) in an adult PDX model of synovial sarcoma**

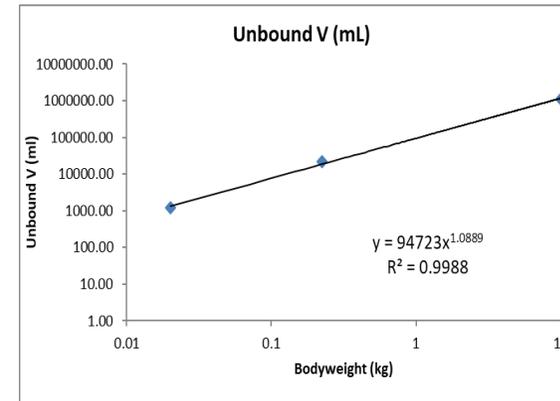
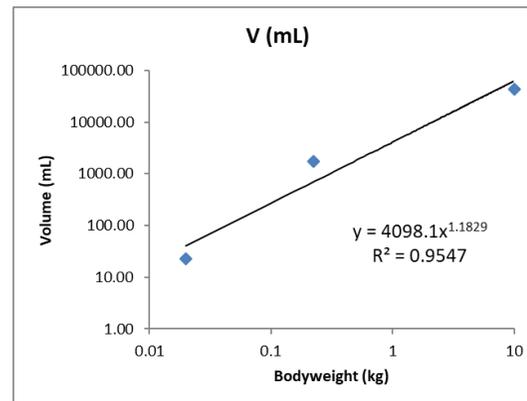
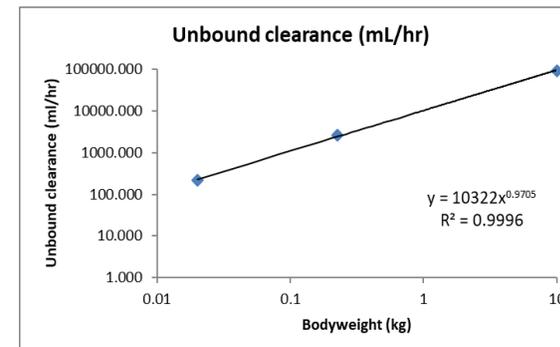
SA13412 PDX: Pretreated 22YO female w/ metastatic, multifocal synovial sarcoma in right upper lobe lung; SS18/SSX fusion positive

# Cross-species PK Profiles

## Clearance

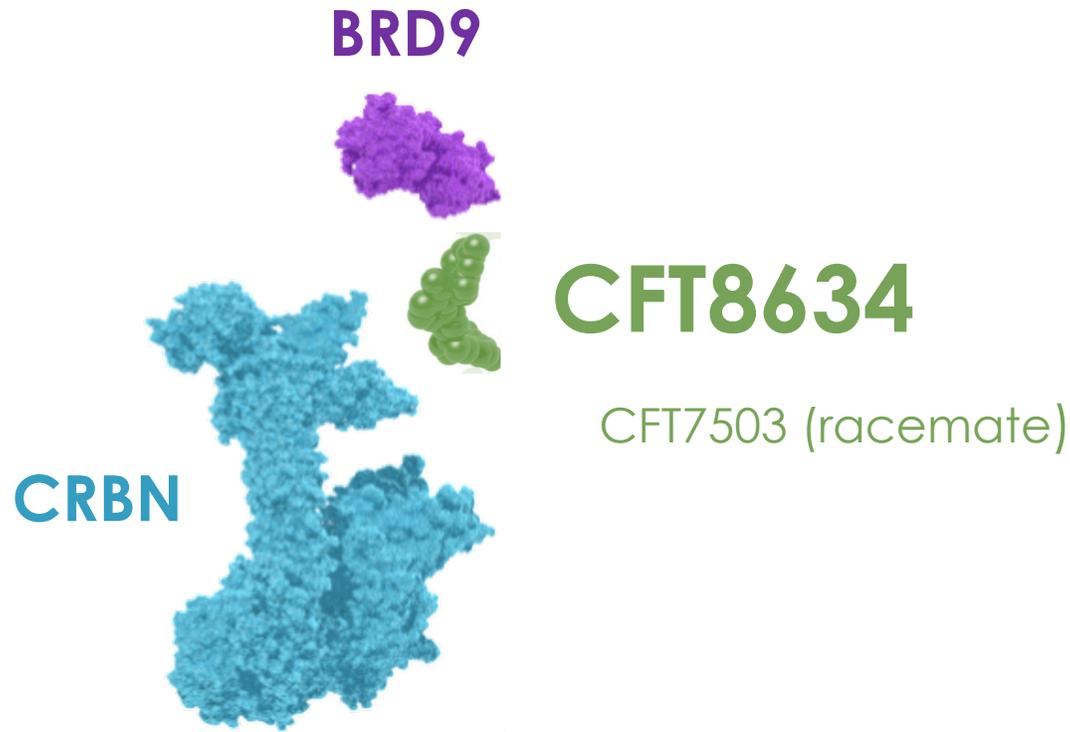


## Volume



Concordant cross-species PK profiles enable confident and favorable human dose predictions

# Opportunity to Develop a First and Best-in-class BRD9 Degradator



- ✓ Degradation activity
  - Potent
  - Selective
  - Complete
  - Durable
- ✓ Complete disruption of oncogenic BRD9/ncBAF activity
  - Selective *in vitro* growth inhibitory activity in human synovial sarcoma cell lines
  - Complete tumor growth inhibition across CDX and PDX models of synovial sarcoma
- ✓ Enabling pharmacokinetic profile and drug properties
  - Oral dosing
  - Dosing frequency flexibility

**Potential for an effective therapeutic agent with applicability across SMARCB1 deleted cancers**

Synovial sarcoma, Malignant Rhabdoid Tumor, Epithelioid sarcoma



# C4 Therapeutics

Thank you

