



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.

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Synovial Sarcoma

Clear Unmet Need

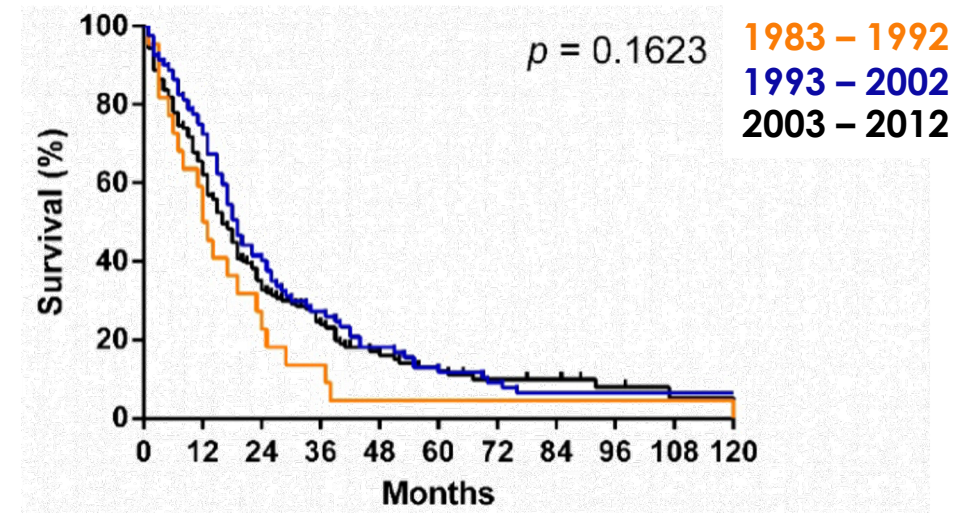
- **Very limited benefit of treatments** for metastatic synovial sarcoma or recurrence following surgery – metastatic **median survival: ~18 months**
- Median age of diagnosis: **34 years old**

Defined Patient Population

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

Kaplan-Meier Survival

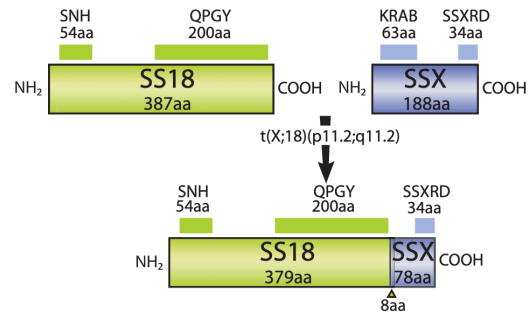
Over time [3 decades]



Wang et al., 2017

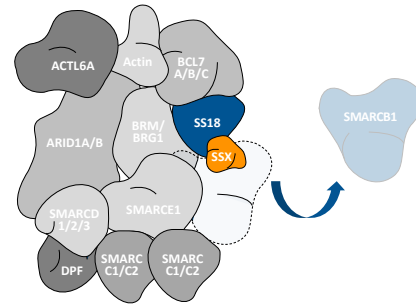
Lack of effective treatment strategies for metastatic disease or reoccurrence following surgery

Overview of BRD9 as a Therapeutic Target



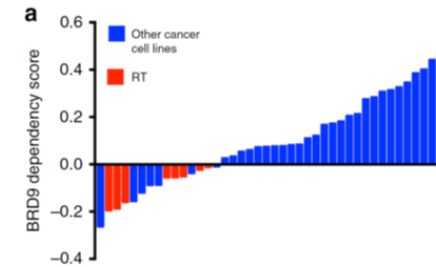
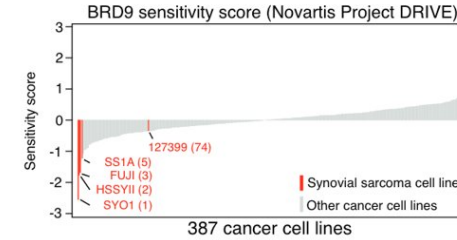
SS18-SSX fusion

Defining feature that underlies synovial sarcoma pathogenesis



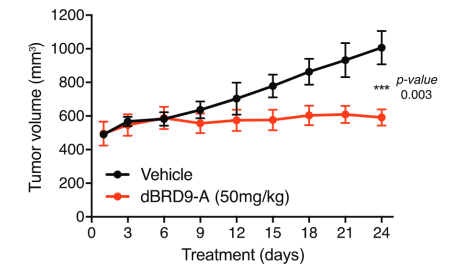
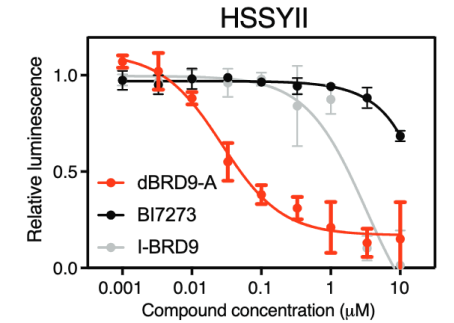
SMARCB1 eviction

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

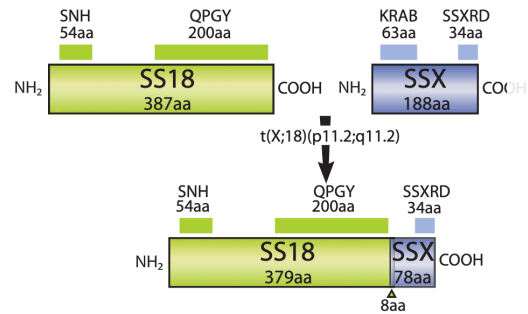


BRD9 degradation

Targeted protein degradation is an effective therapeutic strategy

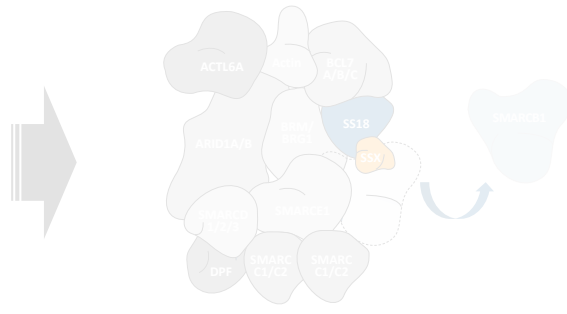
Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

Overview of BRD9 as a Therapeutic Target



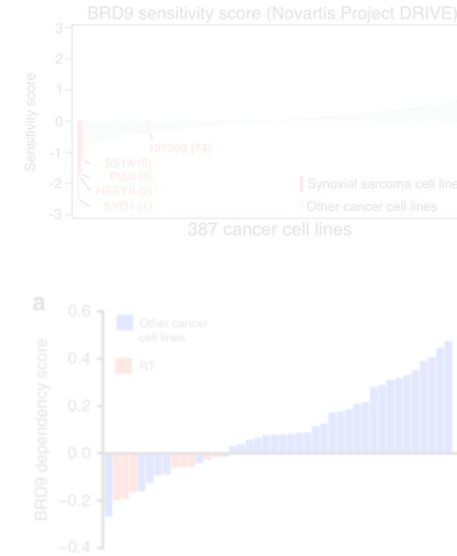
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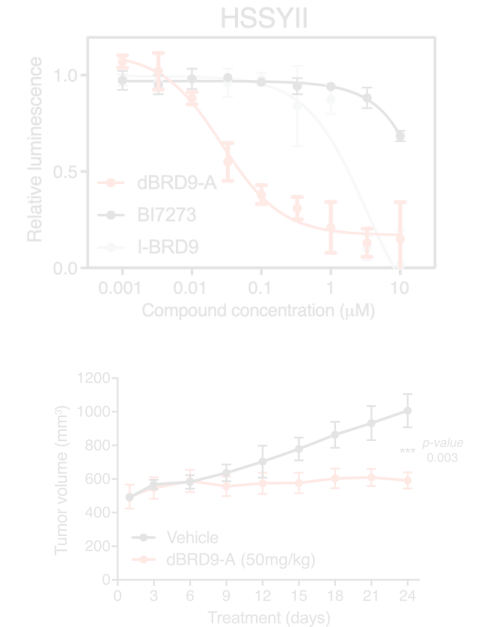
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Synovial Sarcoma – SS18-SSX Fusion

SS18-SSX fusion

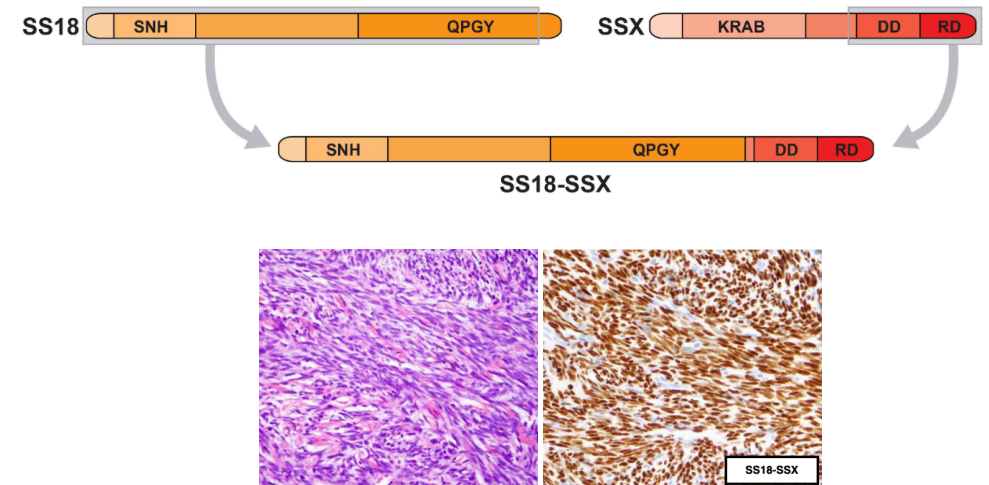
- Non-random chromosomal translocation t(X:18; p11:q11)
- Bona fide driver of pathogenesis

SS18

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

SSX

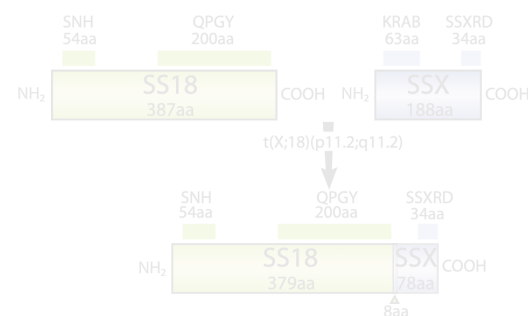
- Potent transcriptional repressor via its KRAB domain (not included within the fusion)



Baranov et al., 2020

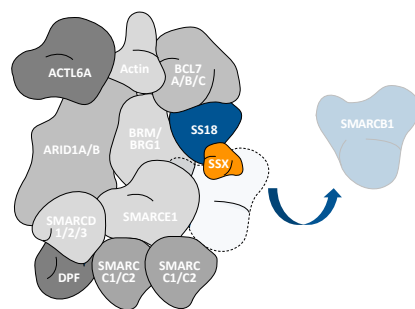
SS18-SSX fusion is the defining molecular feature of synovial sarcoma

Overview of BRD9 as a Therapeutic Target



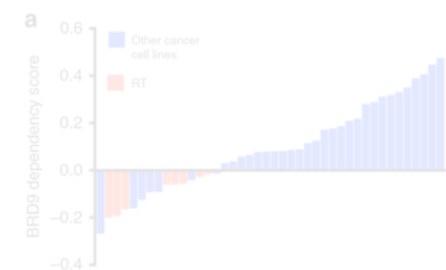
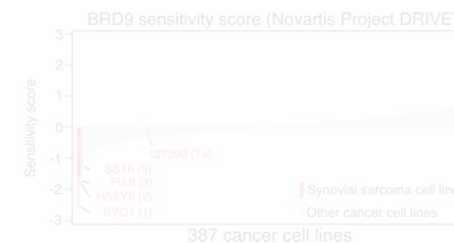
SS18-SSX fusion

Defining feature that underlies synovial sarcoma pathogenesis



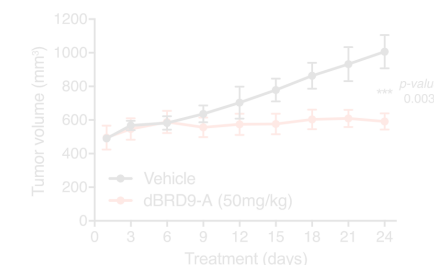
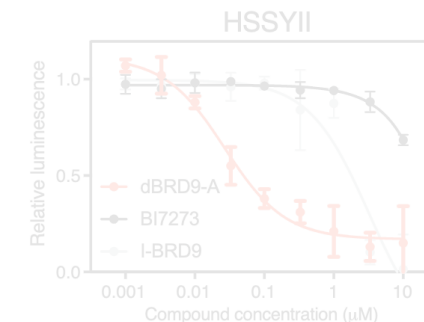
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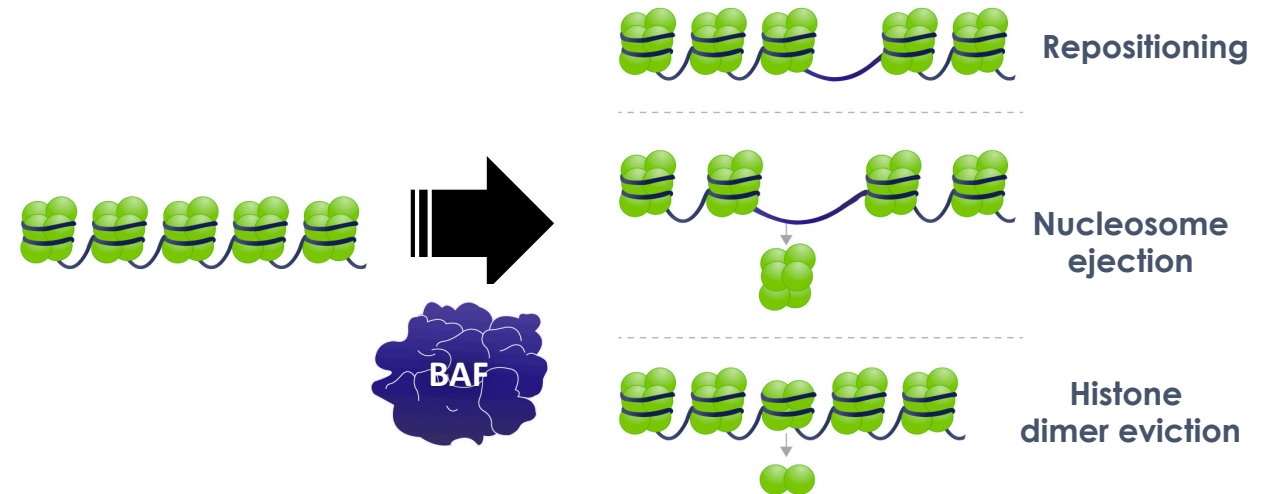
Targeted protein degradation is an effective therapeutic strategy

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

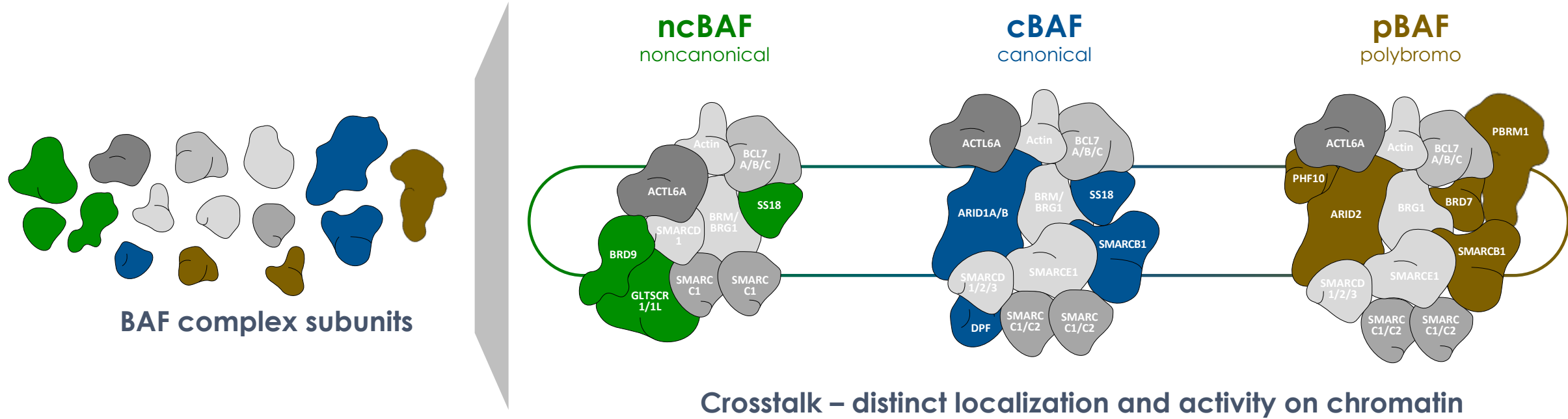
BAF (Brg/Brahma associated factors) or mSWI/SNF complexes

- 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

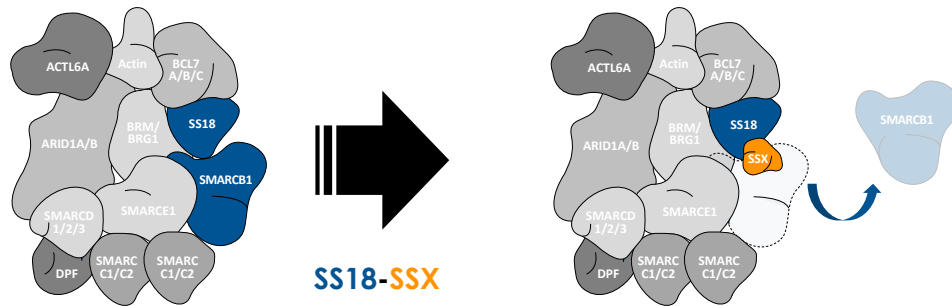
Three Versions of the BAF Complex



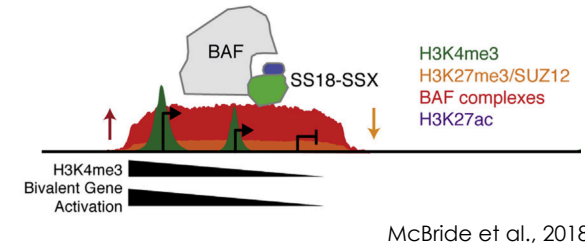
Collaborative interplay between BAF complexes to collectively regulate chromatin state

Sources: Alpsoy 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

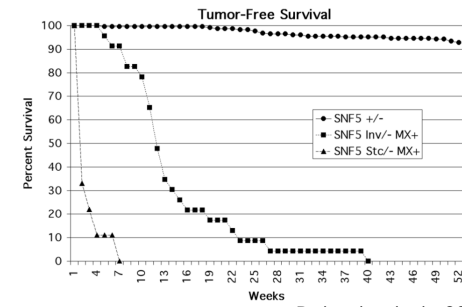
SS18-SSX Fusion Incorporation into the BAF Complex



SS18-SSX



McBride et al., 2018



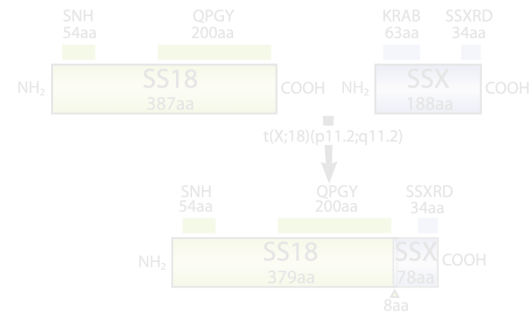
Roberts et al., 2002

**SS18-SSX fusion
oncogenic
program**

**Loss of SMARCB1
tumor suppressor
function**

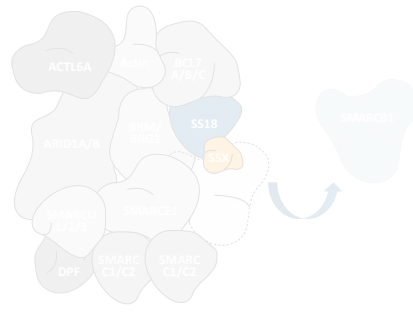
SS18-SSX fusion incorporation results in the ejection of SMARCB1, rendering the cBAF complex dysfunctional and driving an oncogenic state

Overview of BRD9 as a Therapeutic Target



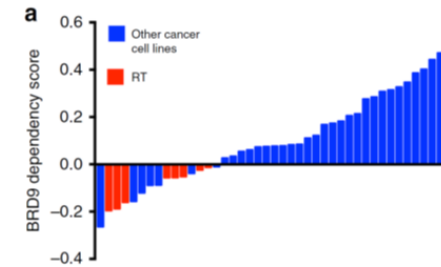
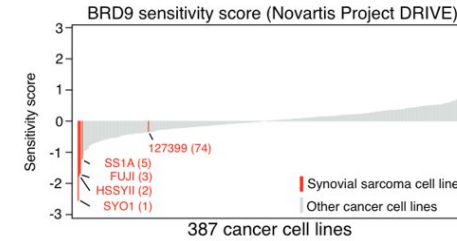
SS18-SSX fusion

Defining feature that underlies synovial sarcoma pathogenesis



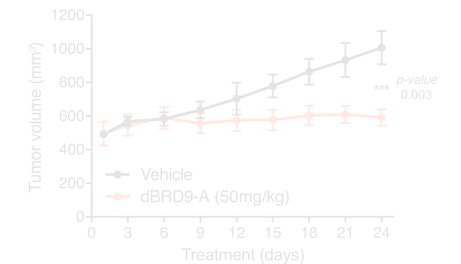
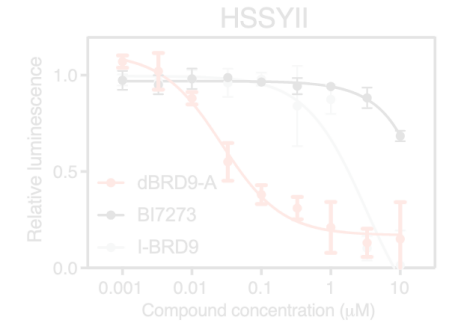
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BRD9 degradation

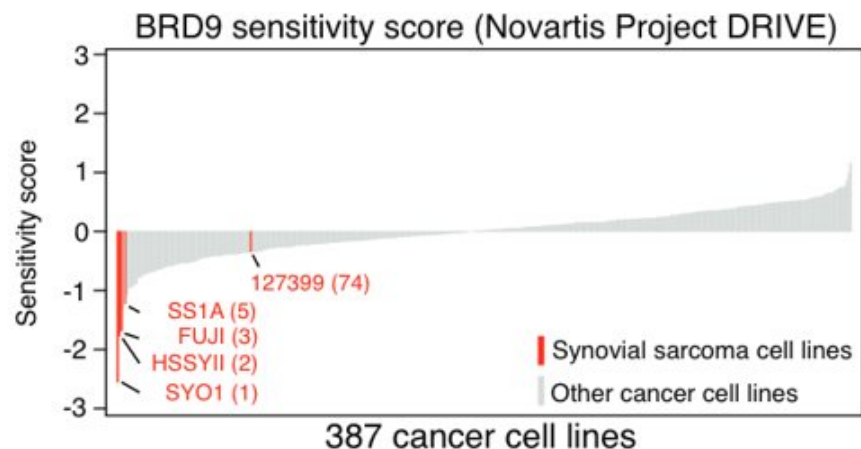
Targeted protein degradation is an effective therapeutic strategy

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

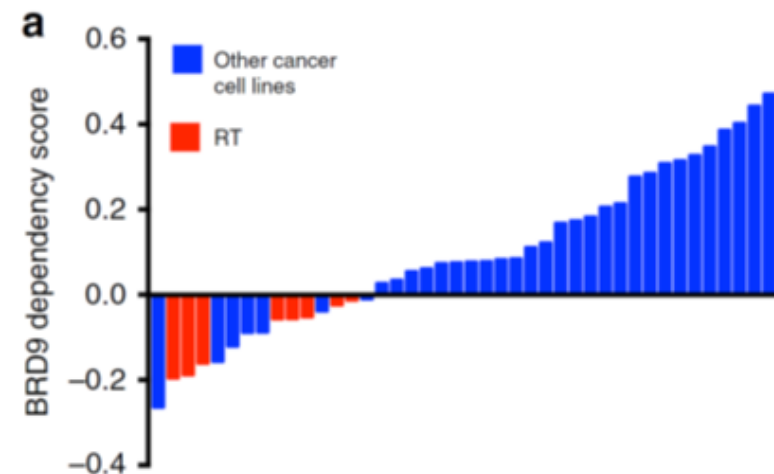
SS18-SSX fusion driven ejection of SMARCB1



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

- BRD9  597 aa

SP110 (isoform A)
SP110 (isoform C)
SP100 (isoform C)
SP140/LY10
LY10L
HA637636

TAF1L (d1)
TAF1 (d1)
TAF1L (d2)
TAF1 (d2)

ZMY11
PKCB1
BAZ1B
TIF1/ TRIM24
TIF1/ TRIM28
TIF1/ TRIM33 (isoform B)
TIF1/ TRIM33 (isoform C)
TIF1/ TRIM56
BAZ1A

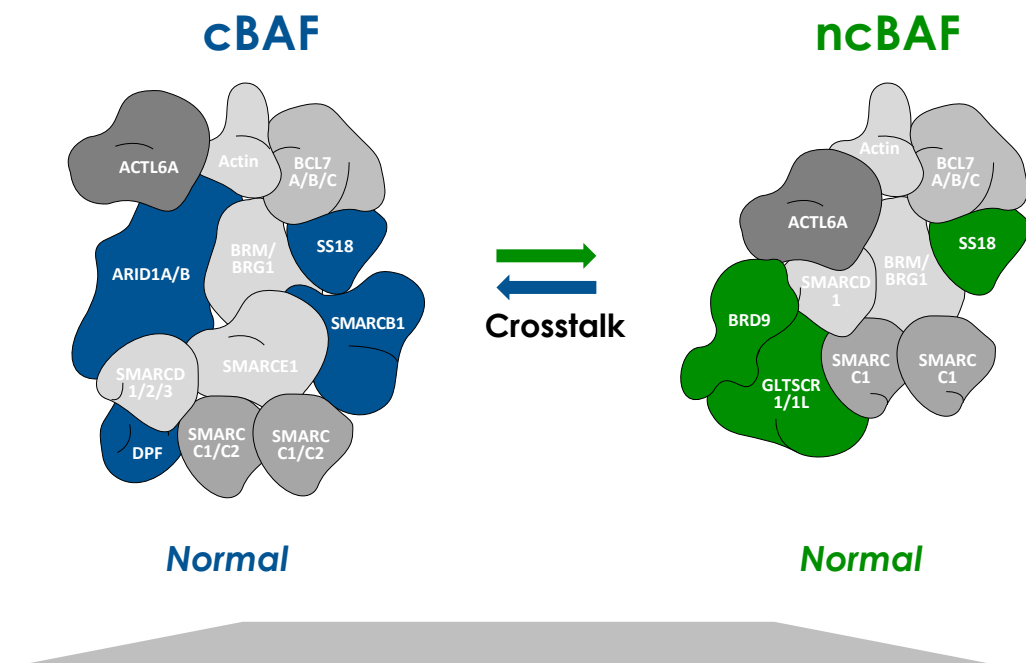
BRWD1/ WDR9 (d2)
BRWD3 (isoform1, d2)
PHIP (d2)
CREBBP
EP300
BRD1
BRPF3
BRPF1
BRD7
BRD9
ATAD2B
ATAD2

SMARCA4
SMARCA2
PB1 (d6)
PB1 (d5)
PB1 (d1)
PB1 (d3)
PB1 (d2)
PB1 (d4)
ASH1L
GCN5/ KAT2A
PCAF/ KAT2B
CECR2/ KIAA1740
BRD2 (d1)
BRD3 (d1)
BRD4 (d1)
BRD2 (d1)
BRD2 (d2)
BRD3 (d2)
BRD4 (d2)
BRD7 (d2)
BAZ2B
BAZ2A
BRD3 (d1)
PHIP (d1)
BRWD1/ WDR9 (d1)



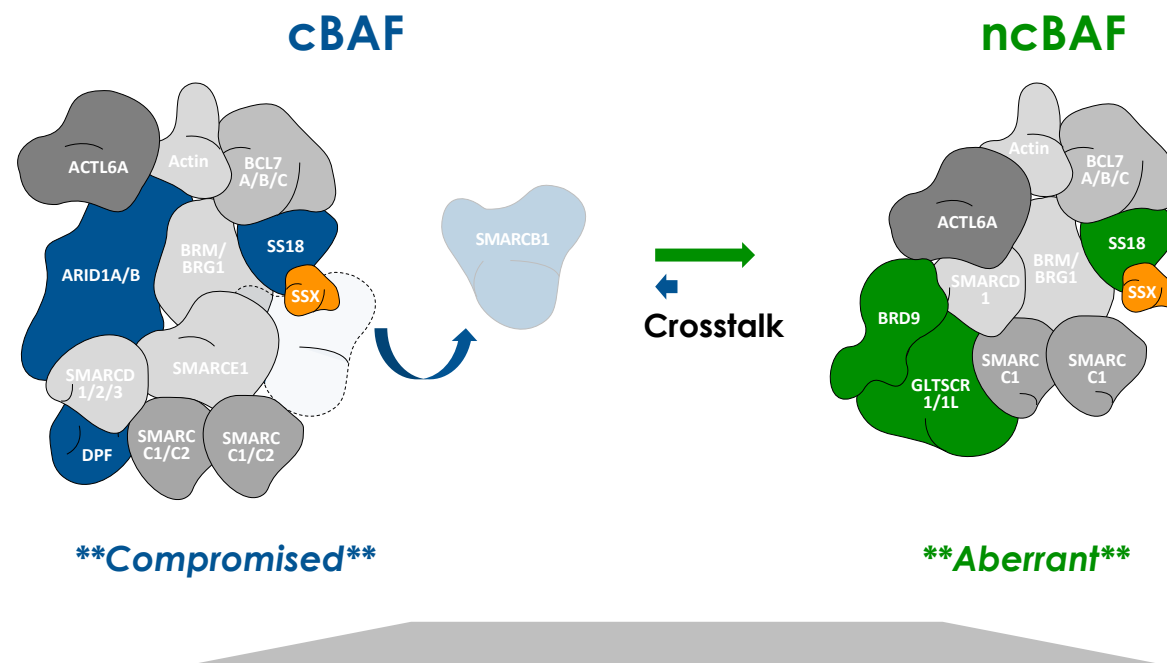
BRD9 Dependency in Synovial Sarcoma

NORMAL CELLS



- Normal chromatin structure
- Wild type transcription

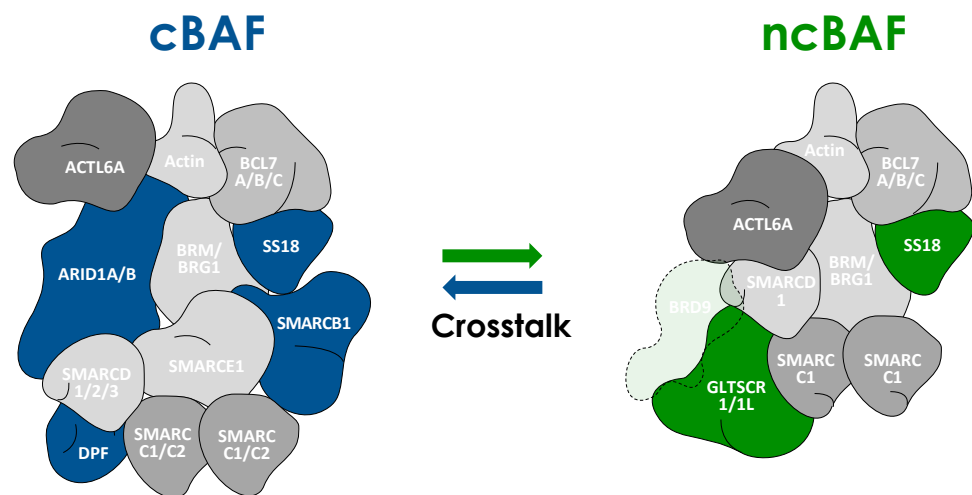
SYNOVIAL SARCOMA CELLS



- SMARCB1 null state
- Aberrant chromatin structure
- Oncogenic transcription

BRD9 Dependency in Synovial Sarcoma

NORMAL CELLS

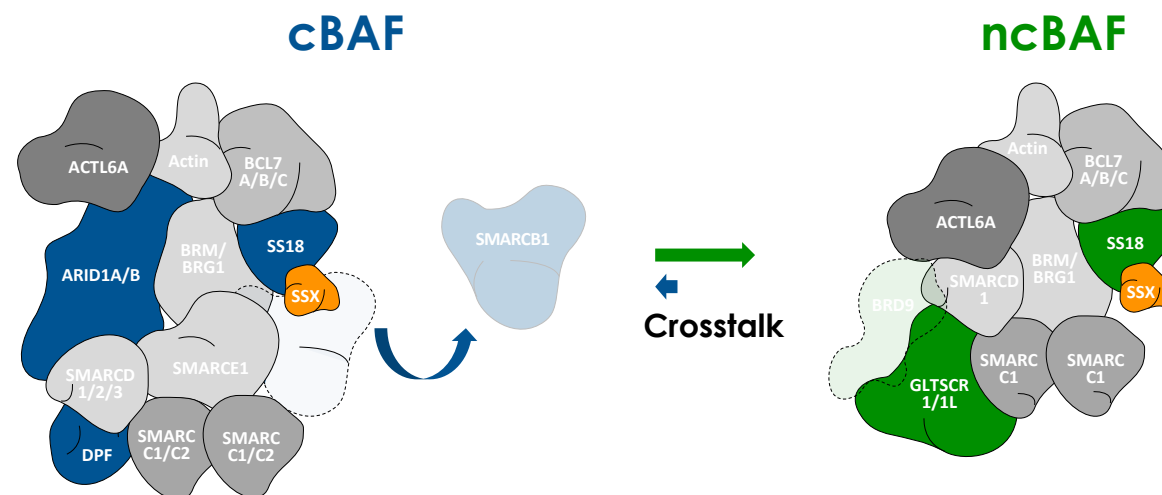


Normal

Normal

Normal cells spared

SYNOVIAL SARCOMA CELLS



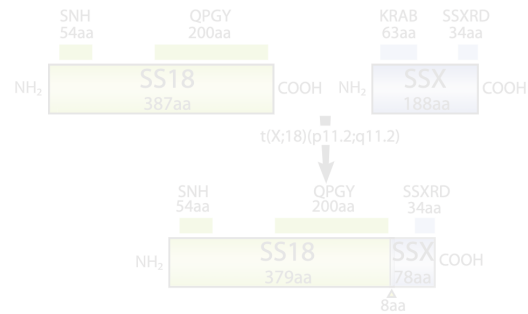
****Compromised****

****Aberrant****

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

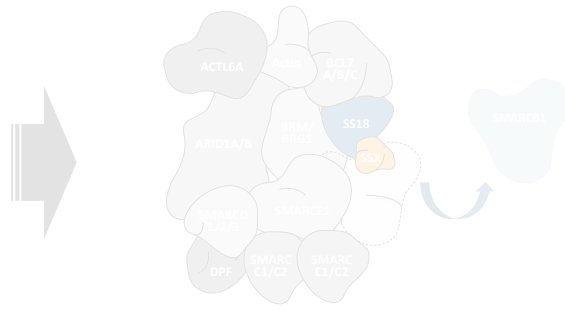
Target rationale: The role of BRD9 in the ncBAF complex results in a synthetic lethal dependency in SS18-SSX fusion driven synovial sarcoma

Overview of BRD9 as a Therapeutic Target



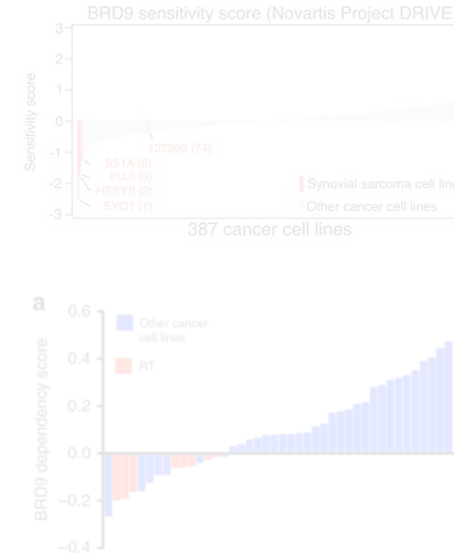
SS18-SSX fusion

Defining feature that underlies synovial sarcoma pathogenesis



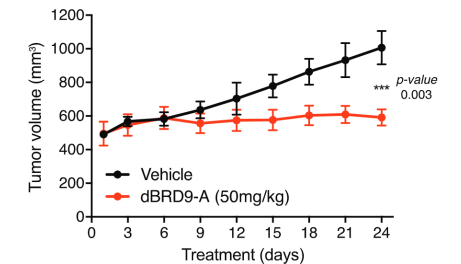
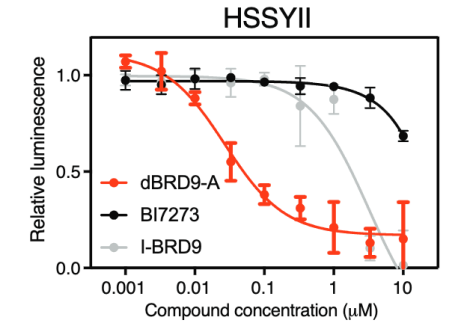
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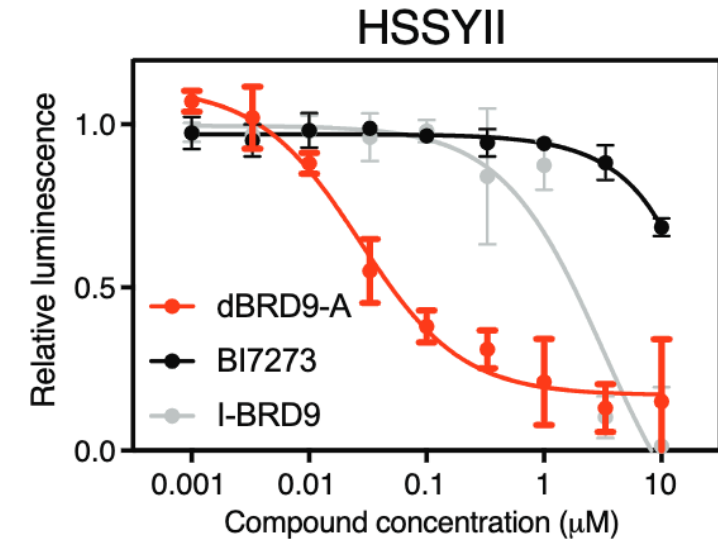
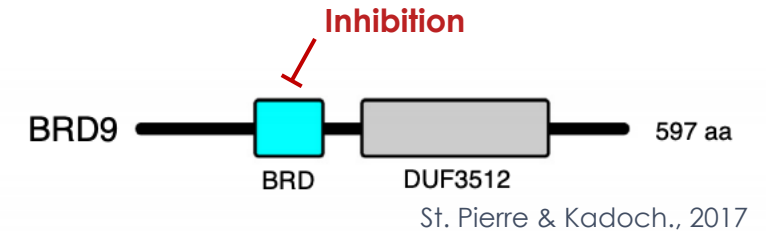
BRD9 degradation

Targeted protein degradation is an effective therapeutic strategy

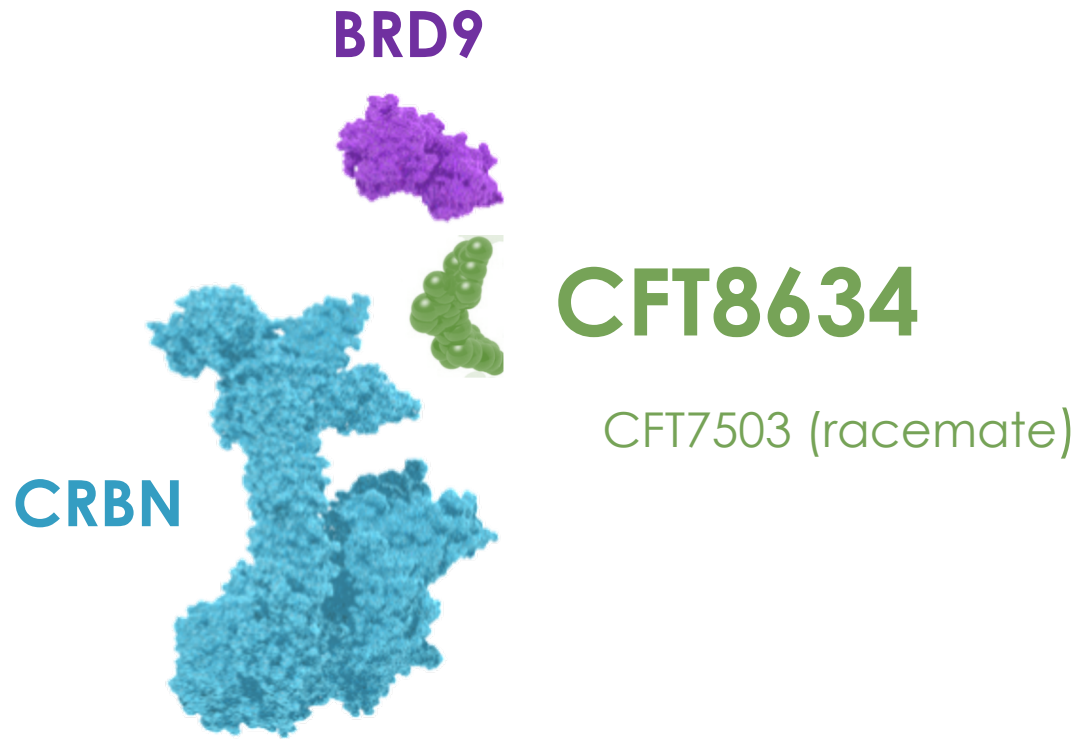
Sources: Kadoch & Crabtree., 2013; McBride et al., 2018; Michel et al., 2018; Wang et al., 2019; Briens et al., 2018

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

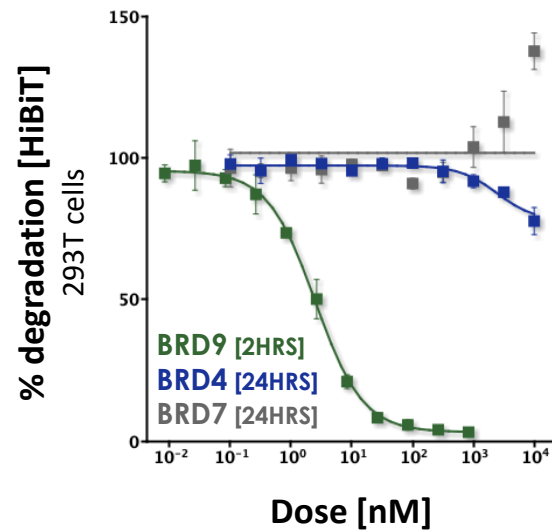


- Degradation activity
 - Potent
 - Selective
 - Complete
 - Durable
- Complete disruption of oncogenic BRD9/ncBAF activity
 - Selective *in vitro* growth inhibitory activity in human synovial sarcoma cell lines
 - Complete tumor growth inhibition across CDX and PDX models of synovial sarcoma
- Enabling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

CFT8634 – Degradation Activity

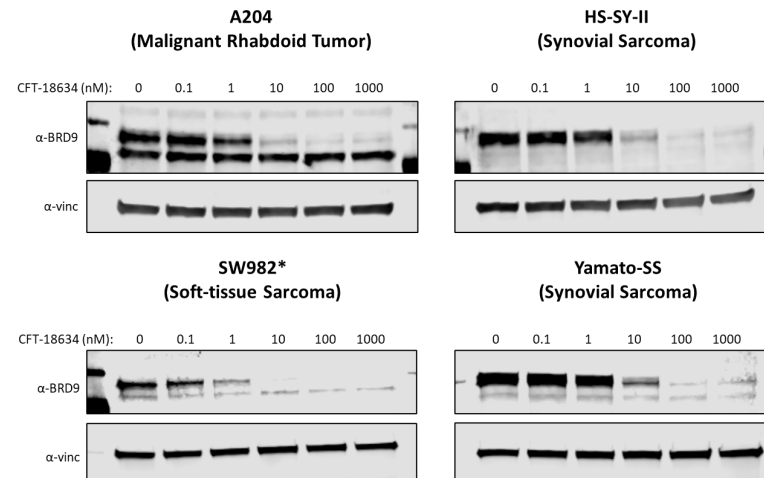
Dose Response Degradation

Engineered 293T HiBiT cell lines



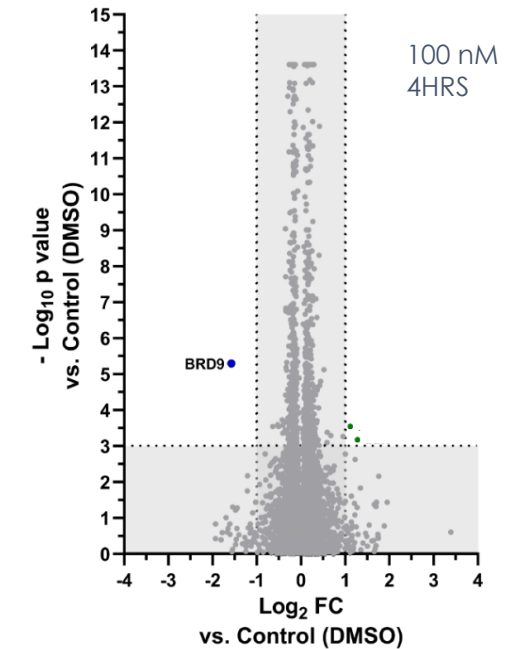
Degradation Across Cellular Contexts

Endogenous degradation



Degradation Selectivity

Global proteomic profiling

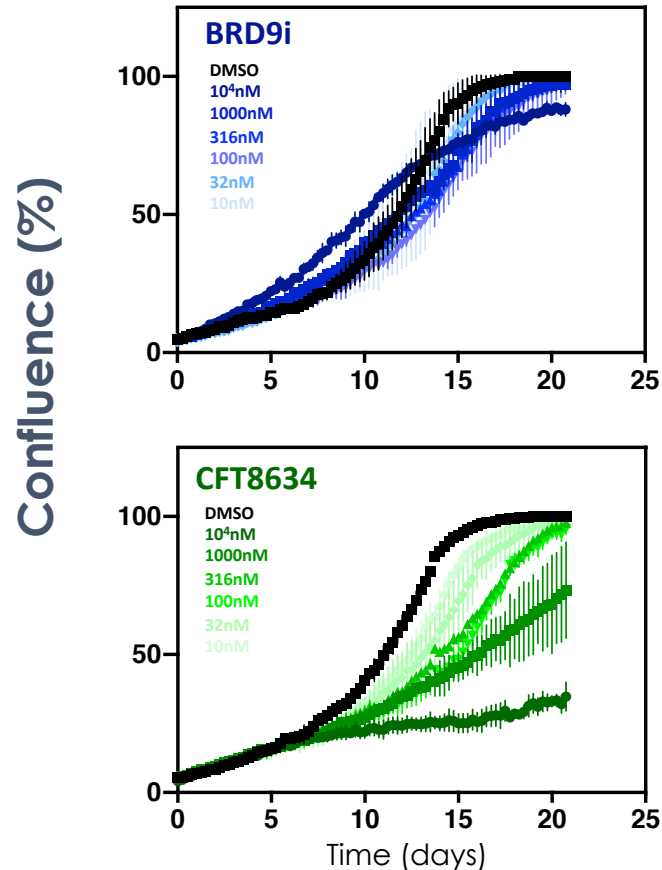


Potent, complete, selective, and durable dose responsive BRD9 degradation

Cellular Consequences of BRD9 Degradation

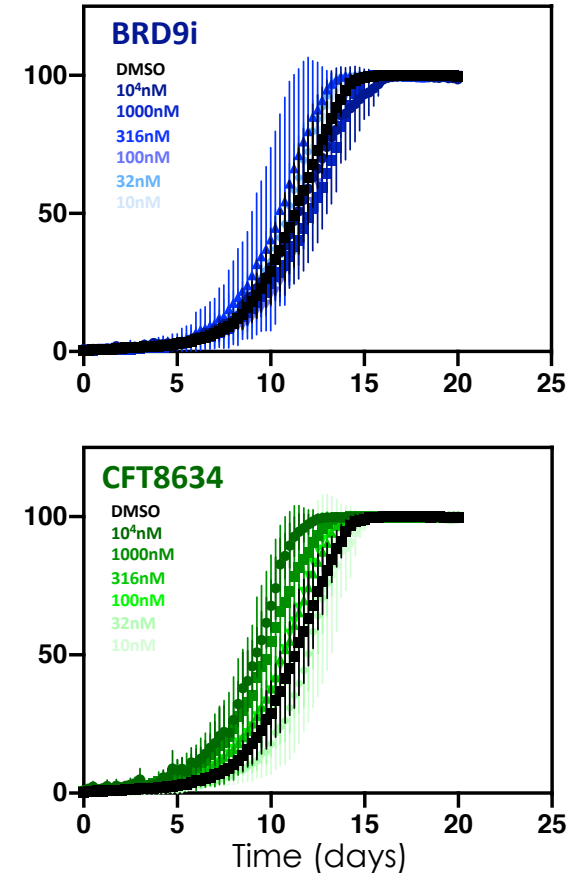
Yamato [SS18-SSX fusion; BAF perturbed]

Single dose long term growth evaluation



SW982 [BAF wildtype]

Single dose long term growth evaluation

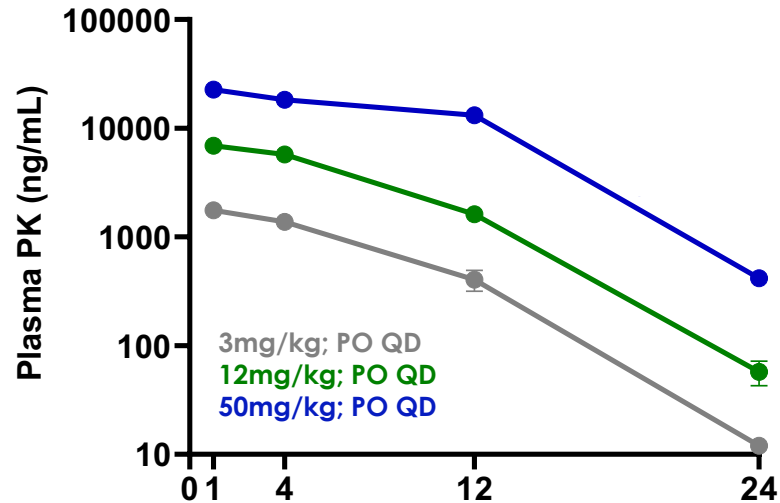


Degradation induced selective growth inhibition in BAF perturbed synovial sarcoma cells

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

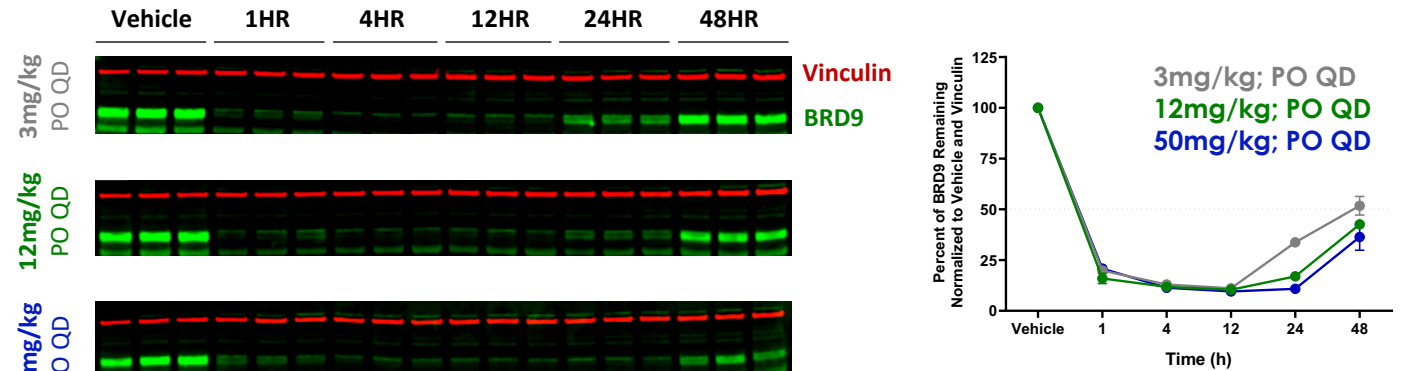
Tumor PK

Synovial Sarcoma CDX (Yamato-SS)



Tumor PD

BRD9 Degradation in Synovial Sarcoma Tumors

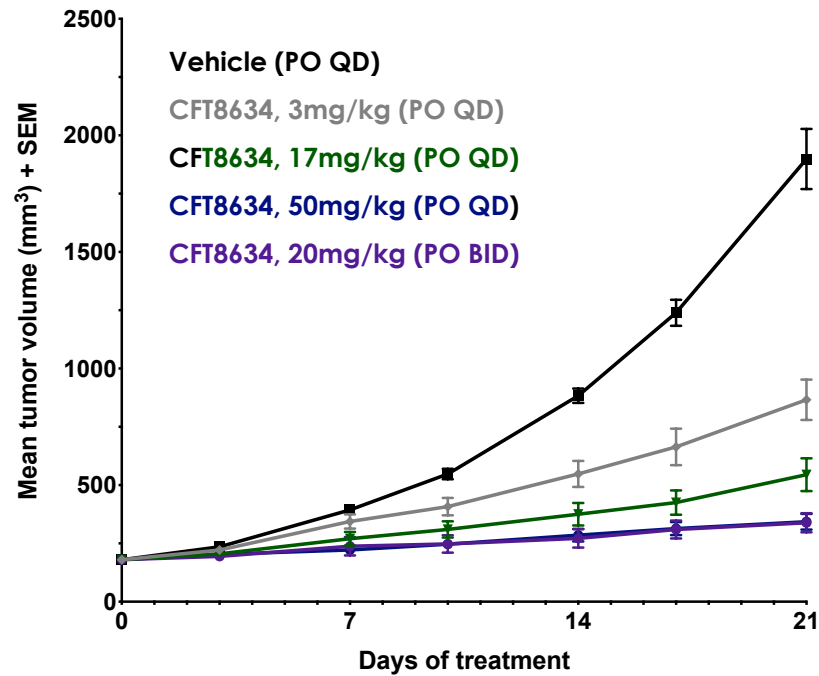


CFT8634 induces deep and durable BRD9 degradation upon oral administration in a xenograft model of synovial sarcoma

In vivo Activity – Efficacy and Tolerability in Synovial Sarcoma

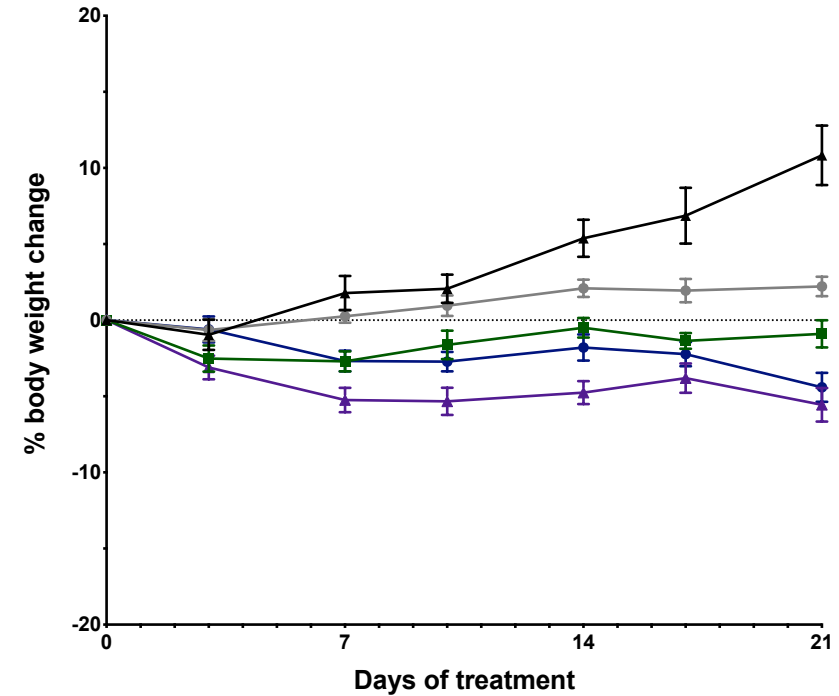
Efficacy

Synovial Sarcoma CDX (Yamato-SS)



Tolerability

Synovial Sarcoma CDX (Yamato-SS)

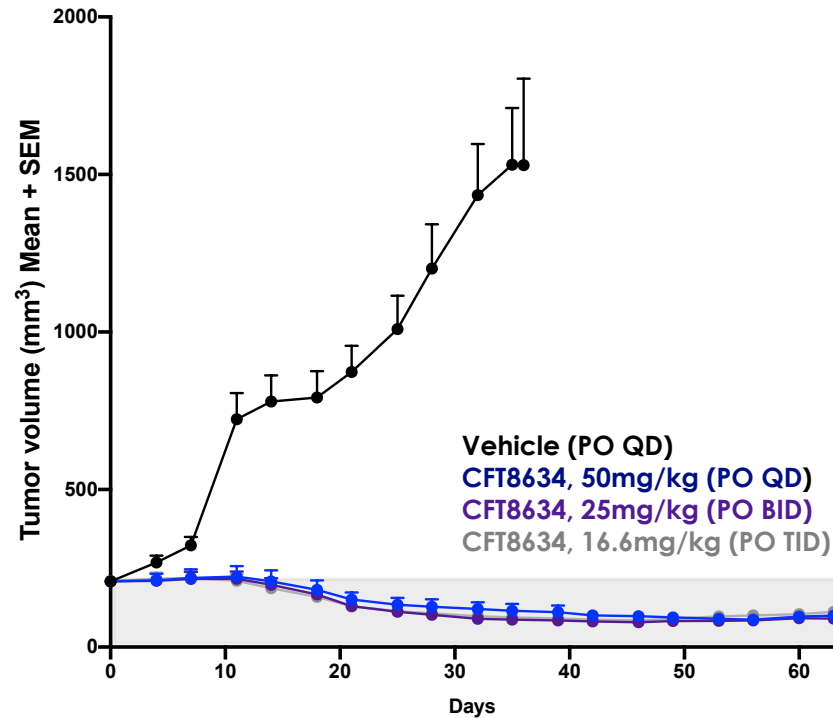


CFT8634 demonstrates dose dependent efficacy in synovial sarcoma and is well tolerated

In vivo Activity – Efficacy and Tolerability in Synovial Sarcoma

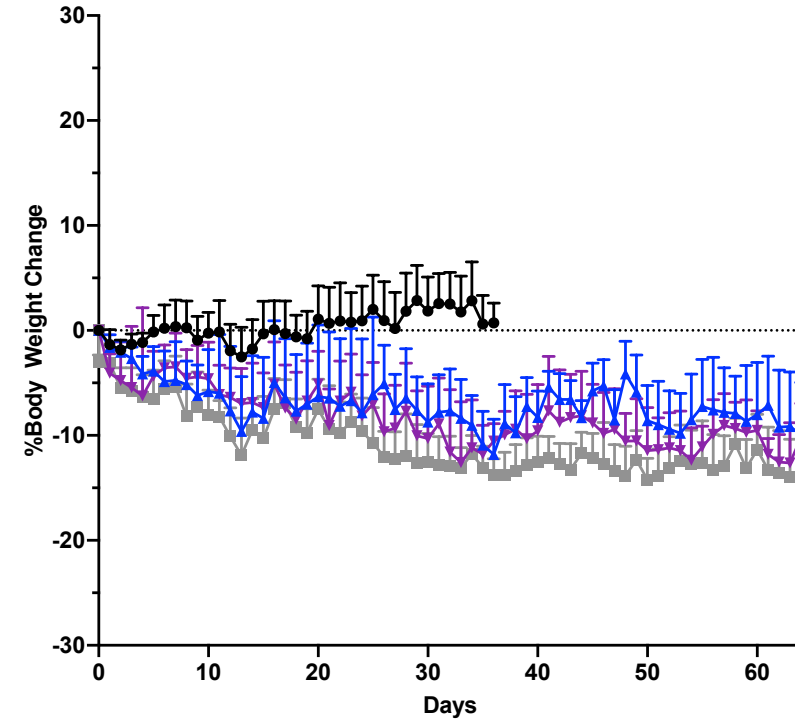
Efficacy

Synovial Sarcoma PDX (SA13412)



Tolerability

Synovial Sarcoma PDX (SA13412)

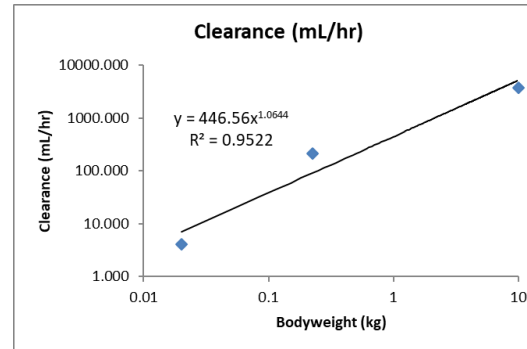


CFT8634 is efficacious (durable, regressions) in an adult PDX model of synovial sarcoma

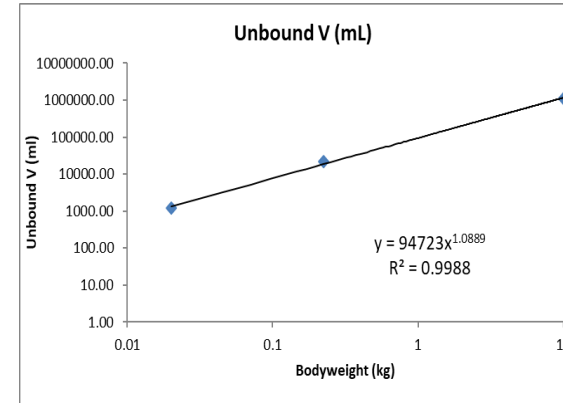
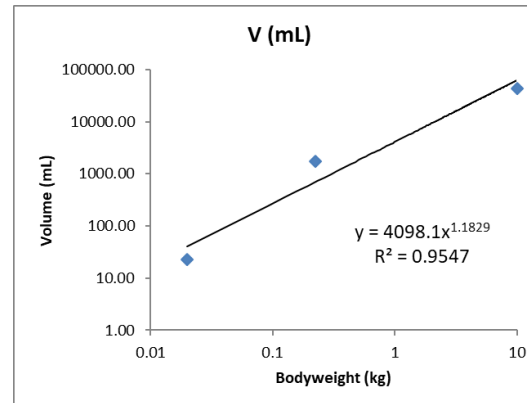
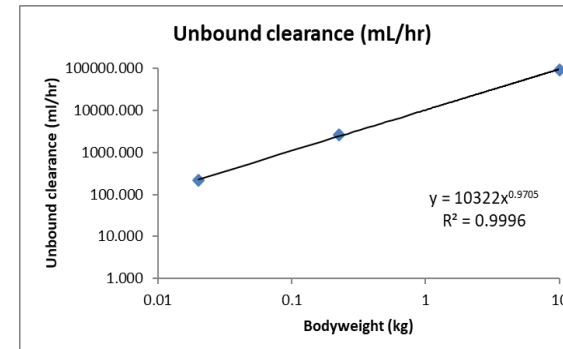
SA13412 PDX: Pretreated 22YO female w/ metastatic, multifocal synovial sarcoma in right upper lobe lung; SS18/SSX fusion positive

Cross-species PK Profiles

Clearance

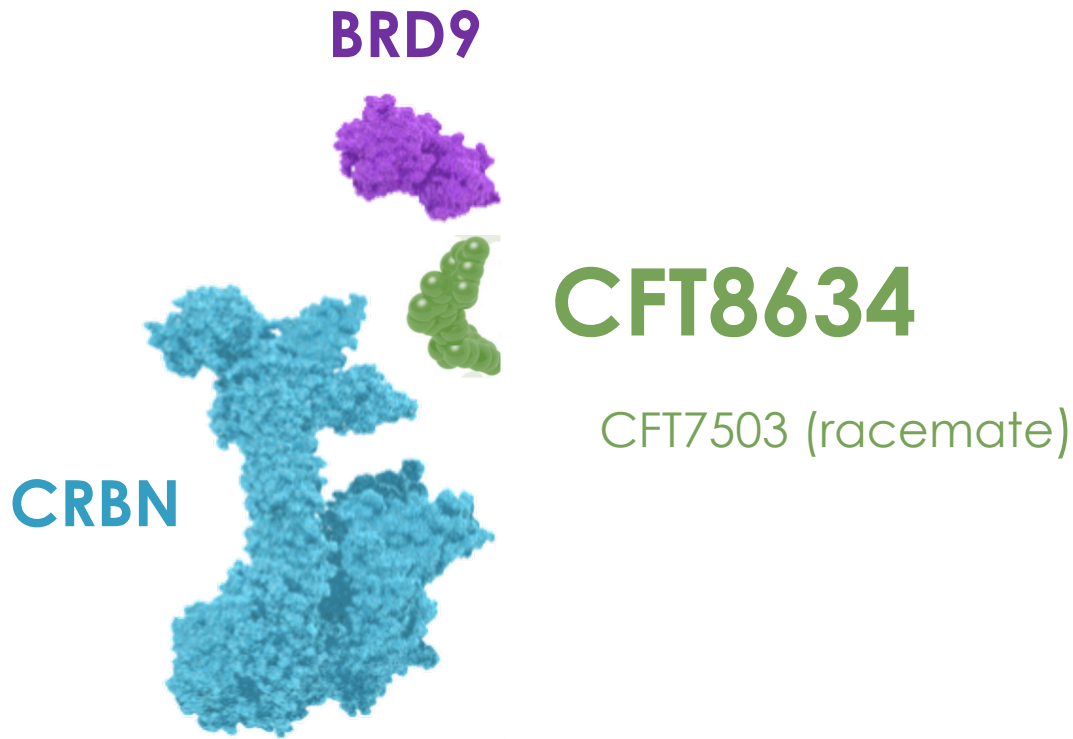


Volume



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

