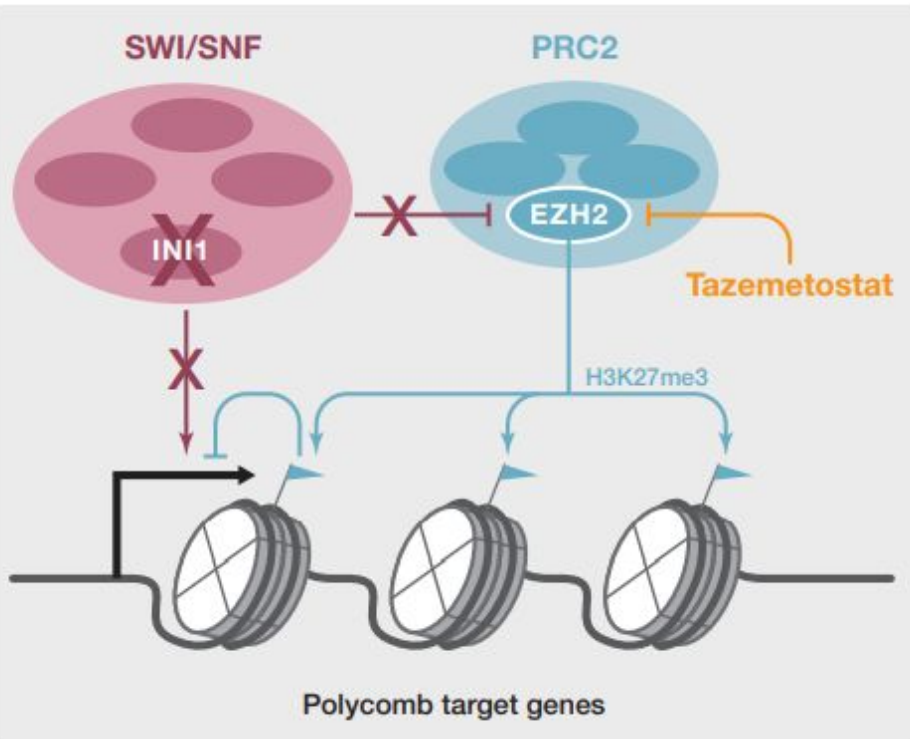


Science news

29.04.20

Подготовила
Князева Анастасия

Эпигенетическая терапия саркомы - первый подобный препарат, одобренный FDA



Prevalence

Epithelioid sarcoma
1.2%–1.5% of annual soft
tissue sarcoma diagnoses

Soft-tissue sarcoma
diagnoses are <1% of
annual cancer diagnoses

Approval stats

15%

Overall
response

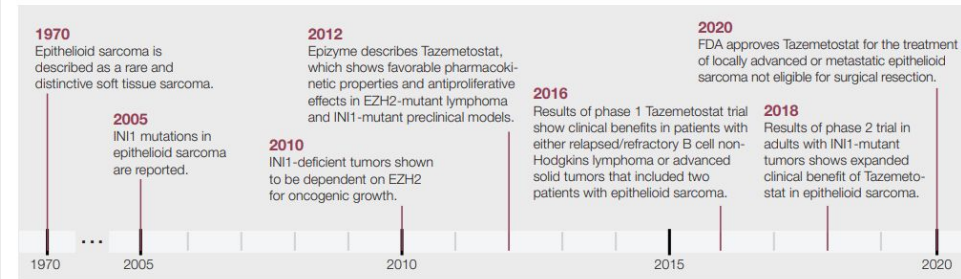
67%

Patients with
a response
of 6+ months

Duration of
response

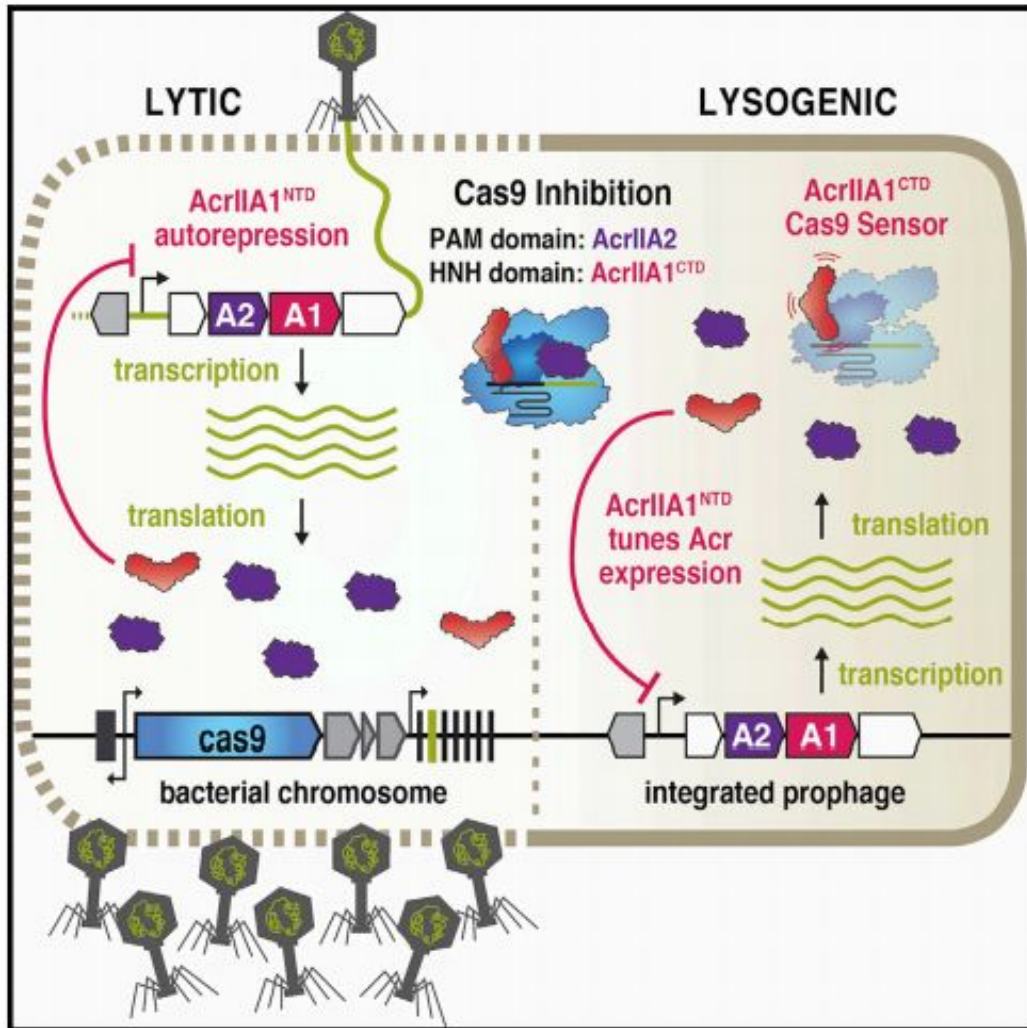
First approval

- In its class (KMT inhibitor)
- Epigenetic therapy for a solid tumor



Rothbart, Baylin/ Cell, 2020/

<http://dx.doi.org/10.1016/j.cell.2020.03.042>





Critical Anti-CRISPR Locus Repression by a Bifunctional Cas9 Inhibitor

- anti-CRISPR protein AcrIIA1 serves as an antiCRISPR and a vital autorepressor
- AcrIIA1 allows prophages to tune Acr expression to Cas9 levels
- AcrIIA1 homologs have been co-opted by host bacteria as “anti-anti-CRISPRs”

Osuna et al., 2020, Cell Host & Microbe, 2020

<https://doi.org/10.1016/j.chom.2020.04.002>

Микробиом ЖКТ важен для лечения рака

Deleterious microbiota		Favorable micobiota	
Diversity			
Low		High	
Antibiotics-related dysbiosis: Probably associated with decreased diversity			
Cancer	Mechanism		Mechanism
NSCLC RCC	Unknown	- <i>Akkermanasia muciniphila</i> - <i>Alistipes indistinctus</i> - <i>Ruminococcus</i> spp	<ul style="list-style-type: none"> • Tumor: \uparrowCD4⁺ CCR9⁺, \downarrowT_{reg} • Peripheral Blood \uparrowINFγ production of CD4⁺ and CD8⁺
Melanoma	\downarrow intratumor CD8 ⁺	- <i>Collinesella aerofaciens</i> - <i>Bifidobacterium longum</i> - <i>Faecalibacterium</i>	<ul style="list-style-type: none"> • Tumor \uparrowCD8⁺ • Peripheral Blood \uparrowINFγ, \uparrowCD8⁺, \downarrowT_{reg}

Deleterious microbiota

Favorable micobiota

Fecal microbiota transplantation

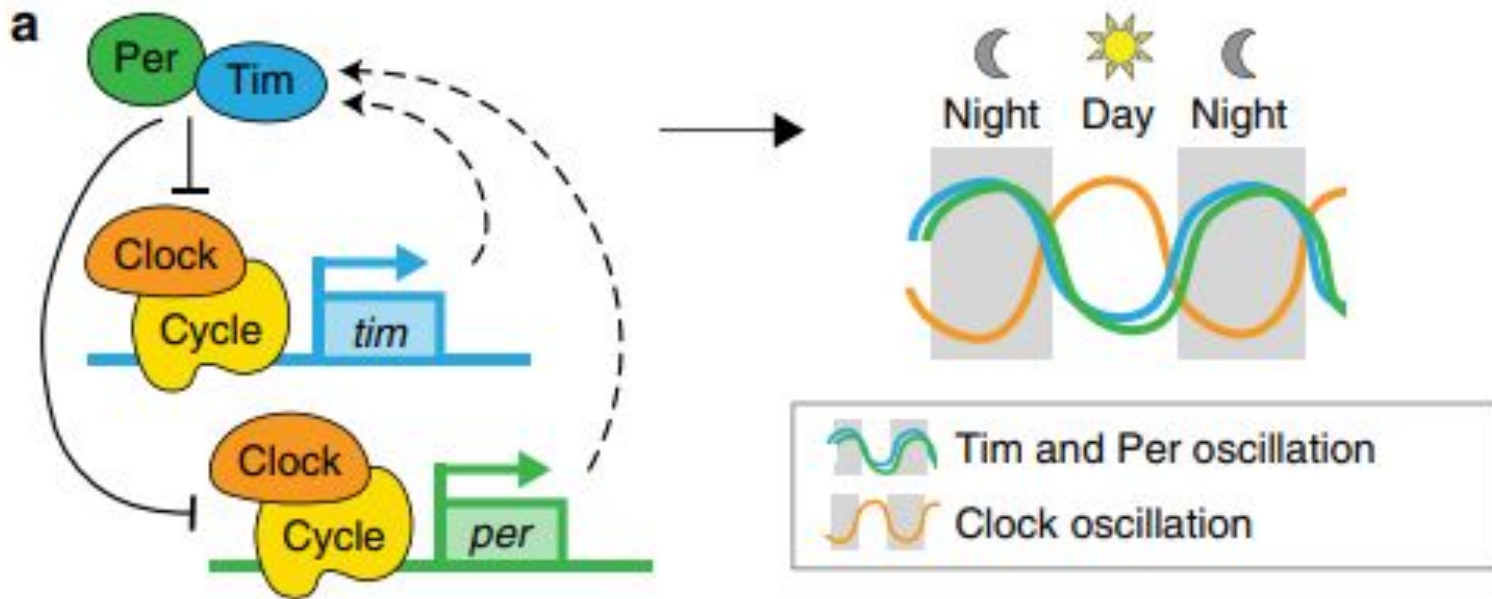
Dietary intervention

Probiotics: *Akkermansia muciniphila*

Prebiotics

Co-medication

“Отключение” двух компонентов циркадных часов увеличило продолжительность жизни самцов дрозофил



Ulgherait et al., NatCom, 2020

<https://doi.org/10.1038/s41467-020-15617-x>