

(i ss all the pics so u know which one to use, for good quality, u can find them in the shared album. But for the lab section, the presentation/gene pictures should be ok)

(the scrolling intro)

Hi

Creative, Confident, Adventurous, Driven, Cheerful, Collaborative, Dreamer, Enthusiastic, Curious, Courageous

Welcome

Stella Xulin

Order: Writing, Lab, Robotics, Music, Cheer, Art, academics

Writing section:

A poetic scroll through time, like scrolling through a journey to show growth in my writing as they read:

1. (give the chinese writings with translation)

I love the feeling of a pen between my fingers,
its smooth body resting against my skin,
ink staining faintly,
a deep blue that lingers after I have written too long.

When I was one, during ZhuaZhou,
a tradition where a child's first grasp predicts her destiny,
I reached for a black Parker pen
instead of the spoon, cookie, or silk dress before me.

Each night beneath the yellow lamp,
my mother read poems aloud.
I traced the rhythm of her voice with my finger
as if I could hold its shape.
Sometimes she placed her pen in my hand,
and I learned how a single stroke could hold emotion.

Those were my first stories,
camellias in rain,
the scent of paper and tea,
the hush of a courtyard that never stopped listening.

2. (some bad writings)

Then we moved across the ocean.
For the first time, I dropped the pen.

English bent oddly in my mouth.
My handwriting tilted.
My words felt fragile and uncertain.

I stayed quiet, watching others speak with ease.

3. (show some writing process)

Then I began again.
My first sentences wobbled,
half in English, half in Chinese.
They were not perfect,
but they were mine.

I filled notebooks with fragments,
thoughts between classes,
lines written before sleep,
tiny worlds forming in ink.
Each word felt like a step closer to home.

At the kitchen table,
I practiced pronunciation with my sister,
turning film into flim, receipt into recipe,
laughing until our stomachs hurt.
Sometimes we translated old Chinese poems,
our voices blending softly,
half Mandarin, half English,
fully ours.

IV. (nice writings - make a beautiful collection, booking looking)

Slowly, I learned to write again.

Through language, I found a new beginning.
I wrote letters, reflections, and essays,
then I found poetry.
Poetry taught me to listen,
to pause between words,
to let silence speak.

Now I write to remember and to connect,
to keep alive the two worlds that shaped me.
The courtyard in China where I first held a pen,
and the quiet corners in America
where I learned to speak again.

Ink still stains my fingers.
And I continue to write.

https://docs.google.com/document/d/1pWpMRCJFzL3EeT8vPMb4ChEiiDj9X_cu-8pbFWY_-Y/edit?usp=sharing

Music section: (personal + the club)

Intro:

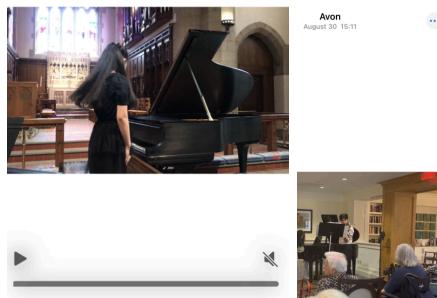
Music has been part of my life since I was six, when the piano first became a place of calm and discovery. From Schubert's Impromptu No. 4, Op. 90 to the Chinese classic Liangzhu, I've found meaning in both the elegance of Western composition and the emotion of traditional Chinese storytelling. I have performed in numerous school music programs and community concerts, and I enjoy tutoring younger students, helping them build a strong foundation and love for piano. As a member of The Hartford Music Teachers Alliance, I continue to grow as a pianist and performer, recently earning first place and a gold medal in the HMTA Rising Pianists Competition with the highest score in the high school division.

Performance videos (i will put the videos in the shared album if thats easier but heres the ones in youtube, but i dont want them get directed to youtube)

<https://youtu.be/NTVKIFLHaTI?si=JPT6oCO4eRT260Vg> (i think i have these videos in the album also)

<https://youtu.be/IgQcJFJA5wk?si=Rv6TE2SJ5mH0tYCZ>

(There is a few more I will show you)



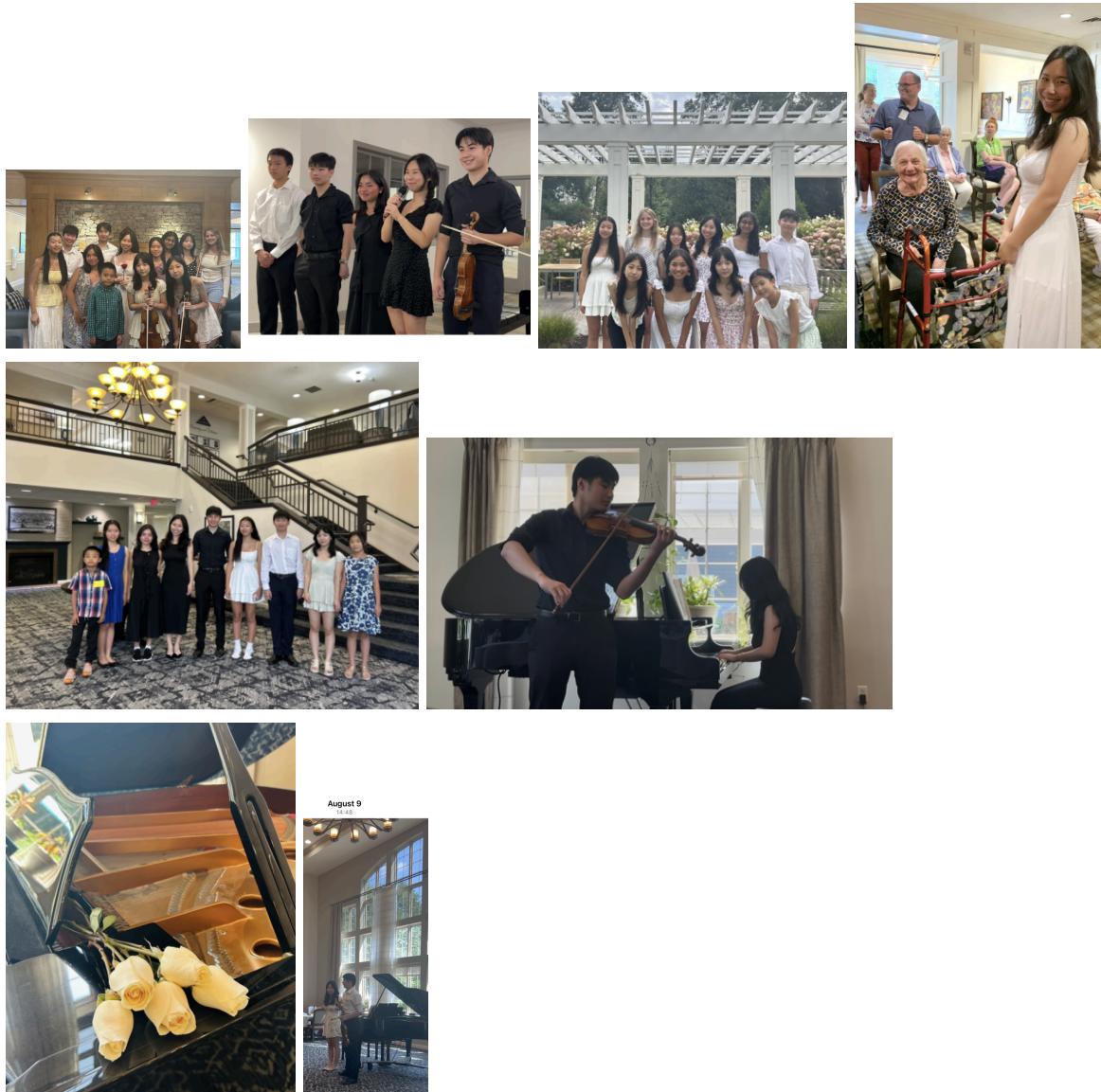
Club:

What began as a personal passion soon grew into something larger. I founded the Farmington Music Students Association to share the joy of music beyond the stage. Our group grew quickly,

bringing live performances to schools, hospitals, and retirement homes. Each concert reminds me that music can heal, connect, and bring light to those who need it most.

Data: 60+ members, 400+ residents with disabilities

Pictures and videos of performances.



Club insta:

https://www.instagram.com/fmsa.scholarsinsound?utm_source=ig_web_button_share_sheet&igsh=ZDNIZDc0MzIxNw==

Curiosity led me to explore the harmony between music and science. Through Scholars in Sound, I examine the therapeutic power of music and how technology can amplify its reach. Our team publishes student-written articles, curates performance videos in collaboration with artists from Vancouver, China, Australia, Spain, and Korea, and develops AI-generated compositions and playlists crafted to comfort and inspire. We also interview seniors about how music has shaped their lives, gathering stories of memory, emotion, and connection that guide our creative process. This expanding interdisciplinary library serves as a source of solace for patients while

uniting art, technology, and healing. Our student-coded AI further empowers elders to engage with the digital world through the universal language of music.

Some articles (in a form of those new york times article):

https://docs.google.com/document/d/1Yi-Avb_hucaOss3bw5kBfwQSv_5jnWQkmsImsHrEKQc/edit?usp=sharing

<https://docs.google.com/document/d/1UobUwe3J29-nTJ3kl1M4bcPvBNV7V-xNhBopZkxaLrE/edit?usp=sharing>

https://docs.google.com/document/d/1QI-x6wHlyVATcgtVDmEijciLC0HQoTf4O2avOpCKT_E/edit?usp=sharing

Our playlist - maybe just select a few videos (if I direct the whole account then I need to make it better, and also need help with the ai part lol):

<https://youtube.com/@farmingtonmsa?si=BmchSn7pt5Z3BTUn>

Robotics:

Some robotics pictures

Robot Support (leadership):

As the selected team lead of a 60+ member robotics program, I oversee mechanical design, strategy, and outreach across competition seasons. I lead efforts in robot design, CAD modeling, field element construction, autonomous navigation, and sensor integration.

Under my leadership, our team increased female membership by 50% and earned multiple honors, including the Team Sustainability Award and Gracious Professionalism Award at both state and regional levels in 2024 and 2025.



Outreach

Beyond the lab, I am also an active outreach. I help expand access to STEAM education across Connecticut. Through interactive programs and partnerships, I work with students of all ages to make science, technology, and creativity approachable, inspiring, and fun.

1. FIRST LEGO League Mentorship

Within the FIRST LEGO League (FLL) branch of outreach, I mentor students ages 9–14 through full 14-session seasons. I teach coding, design thinking, and collaboration while guiding teams through research and robot challenges. I also teach introductory engineering classes at local elementary schools, helping young students discover confidence and joy through STEM.



2. Rockin' Robotics

Through Rockin' Robotics, I engage young learners in hands-on STEAM workshops that combine engineering and imagination. Working with library programs in Farmington and West Hartford, our sessions have grown from three to five each year, reaching more than 270 students through activities that make science come alive.

Lesson plan:

<https://docs.google.com/presentation/d/1kGvg8QnjZ7Y1JLublgprl1GgZfEiGe4NrNmsVcBWQbI/edit?usp=sharing>

<https://docs.google.com/presentation/d/1LY0w6pBWz-AKeE4iwTehpc9uCLoHV78YS5j9BloIMo/edit?usp=sharing>

https://docs.google.com/presentation/d/1qFzJpECt1N_k5PSK4_19eFz5WgcsClqflGntj_AWd6M/edit?usp=sharing

3. STEAM Day

During STEAM Day events, I help bring full-day, schoolwide programs to local elementary schools. Each rotation of activities allows students to explore topics like circuitry, motion, and design in a playful setting. These events transform classrooms into creative labs, giving every child a chance to build, experiment, and learn.



4. Farmington Valley Robotics Expo

I participate in organizing and leading the Farmington Valley Robotics Expo, a celebration of local FIRST programs that unites FLL, FTC, and FRC teams. Over the past three years, this outreach has mentored 29 Explore and 8 Discover teams, reaching more than 270 students across five towns. The Expo showcases student-built robots, hosts demonstrations, and highlights how teamwork and innovation connect all levels of robotics.



5. Central Connecticut Robotics Alliance

As part of the Central Connecticut Robotics Alliance, I collaborate with partner teams to host Gold Tournaments that raise funds for a shared robotics community space. This partnership strengthens the regional network of teams and supports long-term access to training and competition resources.

6. I am a designer in the team: Fun fact, I designed the team logo and team shirt.



Sponsors:

[Otis Elevator \(Platinum\)](#)
[Parker Hannifin Fluid Control Division \(Platinum\)](#)
[Haas Automation, Inc. \(Platinum\)](#)
[Edward O'Reilly Foundation \(Platinum\)](#)
[Stanley Black & Decker \(Platinum\)](#)
[CT State Department of Education \(Platinum\)](#)
[CT Manufacturing Innovation Fund \(Platinum\)](#)
[Farmington Friends of Robotics \(Platinum\)](#)
[Farmington Public Schools \(Platinum\)](#)
[George's Pizza \(Bronze\)](#)

Cheerleading:

"Let's get fired up and show 'em what you got!"

That chant still echoes in my head every time I step onto the mat. Cheer taught me strength in balance and grace under pressure. From long practices to championship floors, it became more

than a sport; it became a language of trust and precision. As a four-time All-Academic athlete, Most Improved awardee, and CCC nominee, I have grown as both a performer and a leader. I have coached elementary, middle school, and unified teams, and helped our squad to earn the first CCC championship in school history.

(Pics and vids)

<https://youtu.be/r8C4EoHqoJY?si=DUpAXIFXluaXWaHM>

Farmington
October 6, 2023 19:52



Lab:

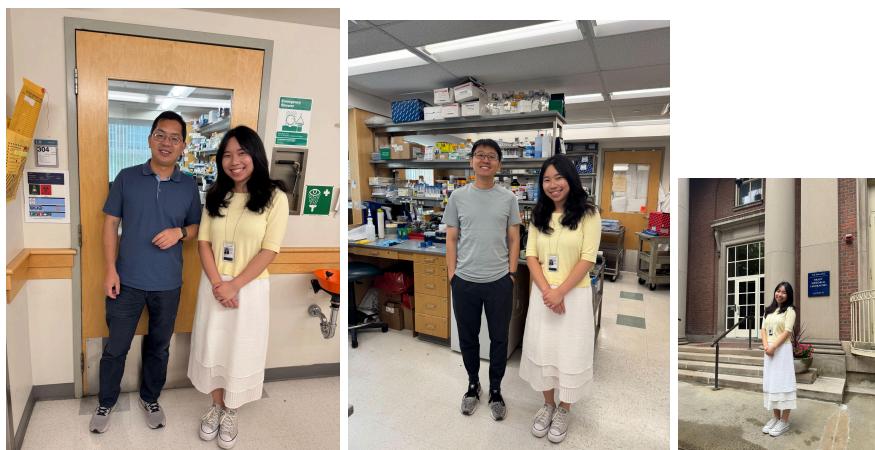
At the Yan Lab in the Yale School of Medicine's Department of Pathology, I studied the function of Endogenous Retroviruses (ERVs), ancient viral sequences often considered "junk DNA." My project focused on reactivating these ERVs through precise epigenetic editing to better understand their role in cancer and immunity.

I constructed the lab's central molecular tool, a Cas9 KDM4D fusion protein designed to remove repressive H3K9me3 histone marks from ERV loci. I designed primers, performed PCR-based molecular cloning, and successfully assembled the lentiviral plasmid carrying our editor. After delivering the construct into target cells, I validated its expression through Western blot analysis.

This validated construct became the foundation for the lab's large-scale study on ERV function, enabling new exploration into how ERV reactivation may influence tumor biology and immune

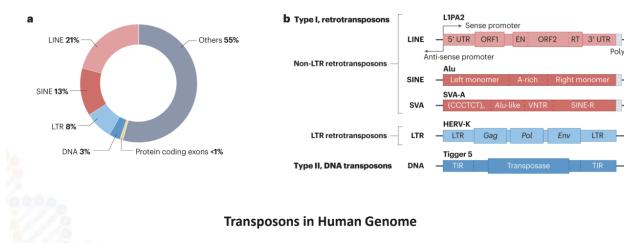
responses. I concluded my research by presenting my methods and results at a formal Yan Lab meeting at Yale.

Website of the lab: <https://medicine.yale.edu/lab/yan/research/>



Research:
Melanoma and Endogenous Retroviruses

Figure 1. Reactivation of Endogenous Retroviruses (ERVs) as a potential mechanism for anti-tumor immunity.



Endogenous Retroviruses (ERVs) are ancient viral elements that make up nearly 8% of the human genome. Once infectious, these sequences are now silenced by epigenetic modifications such as H3K9me3 to preserve genomic stability. Recent studies suggest that reactivation of ERVs in tumor cells can mimic viral infection and stimulate strong immune

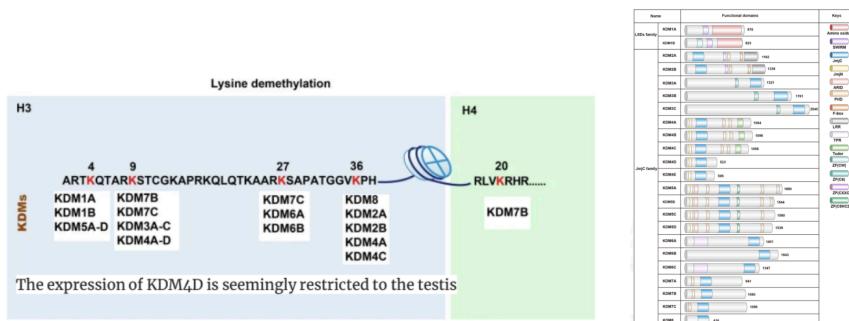
responses against cancer. This phenomenon, known as viral mimicry, represents an emerging direction in melanoma immunotherapy research.

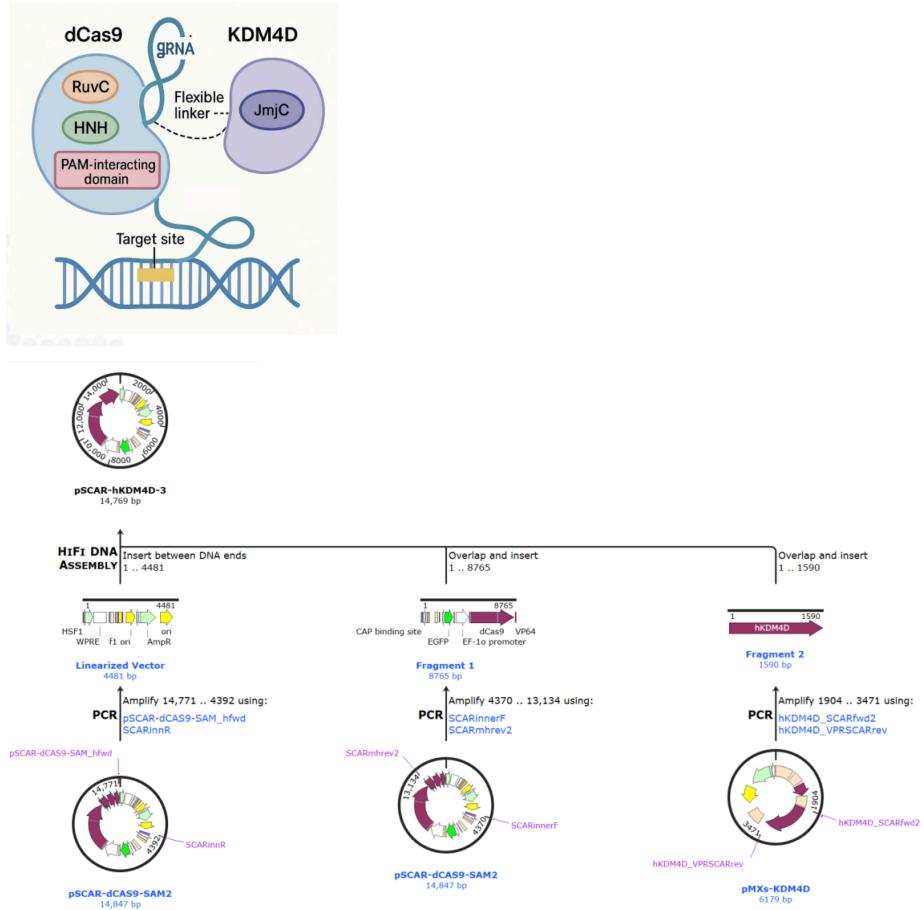
Figure 2. Diagram illustrating the concept of viral mimicry and ERV-driven immune activation.

At the Yale School of Medicine, the Yan Laboratory studies how histone demethylases regulate ERV silencing and how their dysregulation affects cancer progression and immune response. In this context, I contributed to the lab's ongoing effort to understand the functional role of ERV reactivation through precise epigenetic editing.

Project Focus: Locus-Specific Reactivation of ERVs

Figure 3. Design of a dCas9-KDM4D fusion construct for targeted epigenetic editing.





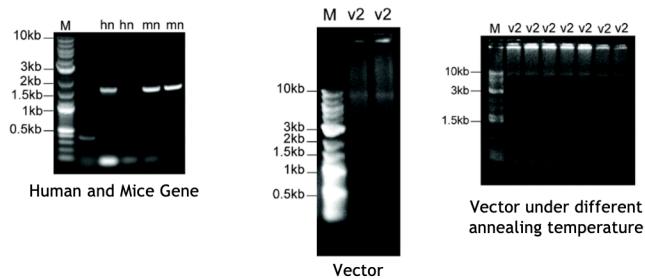
My research focused on developing a molecular tool to specifically reactivate ERVs by removing repressive histone marks. I constructed a dCas9-KDM4D fusion protein, engineered to erase H3K9me3 at ERV loci without altering the rest of the genome. To achieve this, I designed primers and performed PCR-based molecular cloning to assemble the lentiviral plasmid carrying the fusion construct.

After verifying correct assembly through colony screening and sequencing, I transfected mammalian cells and confirmed expression of the fusion protein by Western blot analysis. This validated system now serves as the foundation for the lab's functional screening platform that will map which ERV families most strongly influence anti-tumor immunity in melanoma.

Research Impact

Figure 4. Model of CRISPR-based epigenetic reactivation of ERVs and downstream immune response.

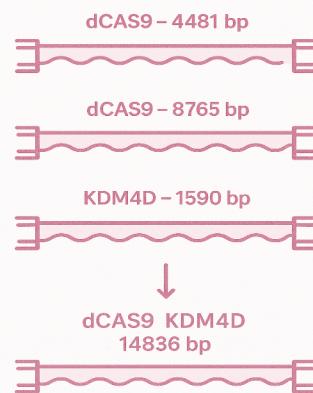
1 PCR Amplification of DNA Fragments



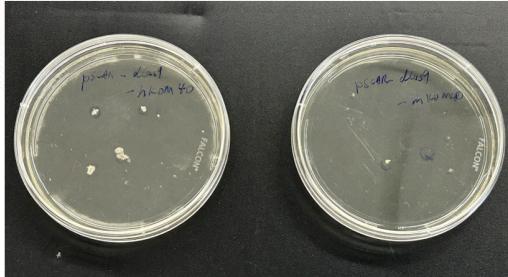
	sample	Size(bp)	
mn	mKDM4D-new	1551	
hn	hKDM4D-new	1590	
mv	Vector-m	13194	
hv	Vector-h	13215	
v2	Vector-part2	8765	

Human and Mice gene & Vector connectors

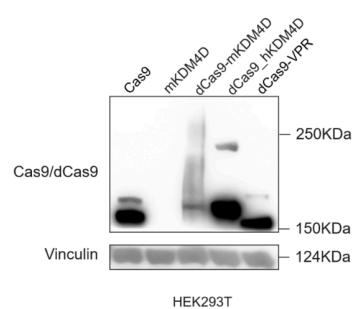
2 DNA Fragment Assembly



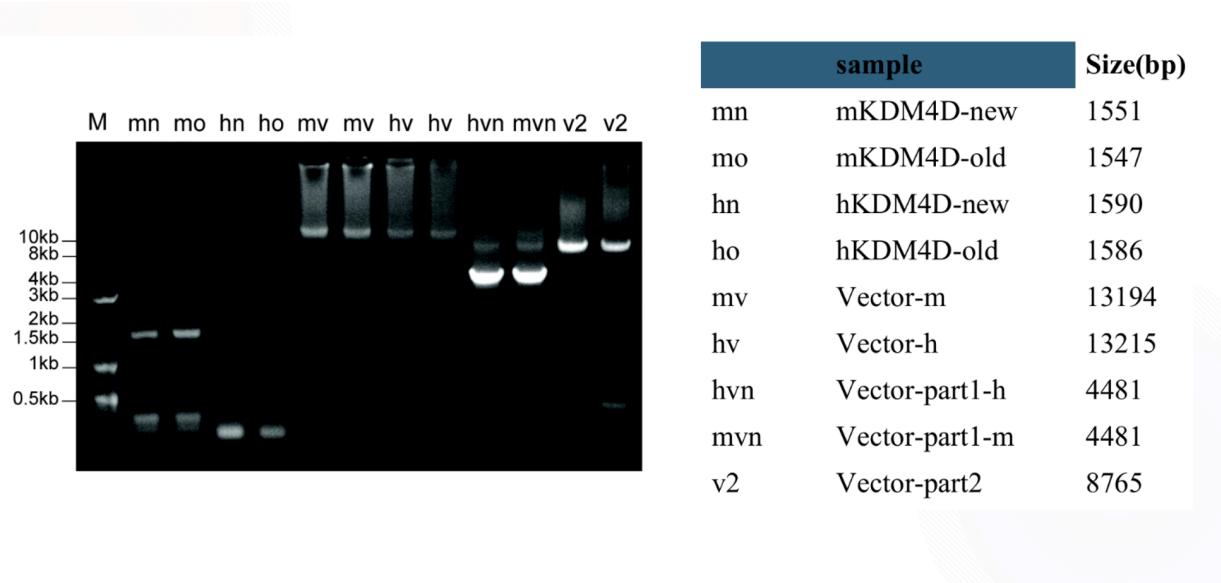
3 Transformation into E. coli



4 Transfection & Western Blot



Protein	Size(kDa)
Cas9	158
mKDM4D	57
dCas9	158
dCas9-mKDM4D	235
dCas9-hKDM4D	236
dCas9-VPR	249



The successful construction and validation of the dCas9-KDM4D epigenetic editor enable the lab to study ERV activation with unprecedented precision. This tool provides a framework for exploring how epigenetic regulation of viral elements shapes the tumor microenvironment and immune signaling.

By contributing to this project, I helped establish a critical molecular platform that supports the lab's broader goal of uncovering how chromatin modifications influence cancer immunity. The insights gained may ultimately inform new therapeutic strategies that harness the body's immune system to recognize and eliminate tumor cells.

Art (drawings + media) - should make a fancy gallery

Podcast: I host S.H.E., a podcast where science meets storytelling and women's voices take center stage.



https://drive.google.com/file/d/1iduv_XEvnRGOK4OapC-deP2gulpzKKmY/view?usp=sharing

Video creating:

June 7
21:32

September 8, 2024
10:22



Academics:

Yale Young Global Scholars – Innovation in Science & Technology (Summer 2024)

Explored interdisciplinary STEM fields including physics, molecular biology, chemistry, engineering, and neuroscience through lectures, labs, and collaborative projects that emphasized inquiry and real-world application.

Capstone: Computer Science

Developed an AI-powered personalized learning platform that integrates educational psychology and adaptive algorithms to enhance engagement and academic growth.

<https://docs.google.com/presentation/d/1wirvCMcuOJWpMmvIMGc0b8yncAp-eQ5d/edit?usp=sharing&ouid=110452420028554407544&rtpof=true&sd=true>

Seminar: Introduction to Microelectronics (Ivan Huang)

Studied semiconductor physics and circuit analysis with a focus on diodes, transistors, MOSFETs, and amplifiers while bridging theory with practical design.

Seminar: Model Fitting: Forecasting Extreme Weather (Mashiko Lortkipanidze)

Applied Bayesian statistical modeling and data analysis to understand climate change through the prediction of extreme weather events.

Seminar: The Crooked Line Between the Finite and the Infinite (Benjamin Grant)

Explored geometric reflections and symmetry using algebraic tools such as Coxeter groups and diagrams to classify mirror configurations.

Seminar: Image Making in the Age of AI (Nahom Seyoum)

Analyzed how AI and computer technologies influence modern image-making, ethics, and artistic expression.

Lecture: Observing Star and Planet Formation (Hector Arce)

Studied star and planet formation using multiwavelength observation and modern astronomical instruments.

Lecture: Nutrition, Food Practices, and Equity (Erica Watson)

Examined how race, culture, and access shape nutrition, health, and food systems with a focus on social equity.

Lecture: Musical Intervention in Medicine (Tom Duffy)

Explored how music-based training helps medical students identify body sounds, blending art and anatomy in diagnostic education.

Lecture: The Scientific Method in Everyday Life (David Hillier)

Investigated how the scientific method can be applied across professions and daily life to improve understanding of the world.

Symposium: CubeSat (Nahom Seyoum, Asher Mehr)

Built and programmed CubeSat prototypes using Arduino sensors to collect environmental data and simulate real-world space research.



Barnard College – NextGen Leadership Institute, STEMnist Track (Summer 2024)

Participated in a three-week program in New York City exploring leadership through a feminist lens. In the STEMnist track, examined the role of women in science and technology while developing leadership, problem-solving, and communication skills through workshops and mentorship from the Athena Center for Leadership. Gained insight into how inclusive innovation and equity shape the future of STEM.

<https://drive.google.com/file/d/1HhugyHCTq-DF7ByFbQctEwtS3PO3pV0I/view?usp=sharing>

<https://drive.google.com/file/d/11dx7qXamVWScu8Jzk1HryLAeqIx5KKT/view?usp=sharing>