

Melody Cox

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SUMMARY

Oncology research scientist with six years of combined postdoctoral and industry experience studying transcriptional regulation, **protein nucleic acid interactions**, chromatin associated complexes, RNA biology, and tumor dependencies. Ph.D. trained molecular biologist with hands on expertise in **mammalian cell culture**, recombinant **protein expression and purification**, **multi subunit complex reconstitution**, and mechanistic assay development. Applies SPR, BLI, fluorescence polarization, ITC, EMSA, molecular biology, and cellular methods to connect macromolecular interactions with cancer relevant phenotypes. Leads target identification, target validation, and mechanism of action studies through rigorous experimental design, reproducible practices, and clear interpretation. Collaborates across oncology biology, chemistry, structural biology, translational medicine, and computational science. Brings careful scientific communication and practical problem solving to discovery programs seeking credible therapeutic hypotheses.

EXPERIENCE

Scientist, Cancer Biology

April 2024 - Present

Redwood Oncology Labs

South San Francisco, CA

Leads mechanistic oncology studies across purified biochemical systems and mammalian cancer models. Supports target validation, **mechanism of action** research, and discovery decisions through cross functional scientific leadership.

- Led transcriptional regulator studies linking purified system data with cancer cell phenotypes.
- Reconstituted human cell derived protein and **ribonucleoprotein assemblies** for functional assays.
- Developed **SPR, BLI**, ITC, and EMSA workflows for direct binding analysis.
- Connected biochemical perturbations with transcriptional and lineage state readouts in cancer models.
- Aligned chemistry, **structural biology**, and computational partners around discovery questions.
- Presented reproducible data packages that guided **target validation** and mechanism discussions.

Associate Scientist, Molecular Oncology

July 2022 - March 2024

Pacific Crest Biotherapeutics

Brisbane, CA

Investigated chromatin associated and RNA binding complexes across biochemical assays and mammalian cancer models. Improved assay quality, study traceability, and evidence integration for molecular oncology programs.

- Investigated chromatin and RNA binding complexes implicated in cancer signaling pathways.
- Expressed recombinant proteins and optimized assembly conditions for multi component complexes.
- Maintained mammalian cancer models for cellular protein and nucleic acid analysis.
- Built **fluorescence polarization**, BLI, and **EMSA** studies across varied assay conditions.
- Linked lineage factor perturbations with transcriptional changes for project discussions.
- Standardized records, reagent qualification, and repeat study criteria across discovery assays.

Postdoctoral Research Fellow, Transcription and RNA Biology

October 2020 - June 2022

Bayview Institute for Molecular Medicine

San Francisco, CA

Directed research on protein nucleic acid assemblies that regulate transcriptional state in human cell models. Combined biochemical, molecular, cellular, structural, and computational work to clarify macromolecular mechanisms.

- Directed studies of protein nucleic acid assemblies regulating transcriptional state.
- Purified regulatory proteins and reconstituted defined complexes for mechanistic testing.
- Applied **ITC**, EMSA, and **fluorescence polarization** across independent interaction assays.
- Cultured mammalian cells and analyzed RNA and protein responses after perturbation.
- Partnered with structural and computational researchers to refine mechanistic models.
- Communicated findings through presentations, reports, manuscripts, and detailed protocols.

PROJECTS

Transcriptional Complex Mechanism Study 📅 2024

Mapped binding relationships within a cancer relevant transcriptional complex by combining reconstitution, biophysical assays, and cellular readouts.

Lineage State Validation Program 📅 2023

Connected lineage factor perturbations with transcriptional changes in mammalian cancer models to support target validation decisions.

LEADERSHIP & AWARDS

- Research leadership recognition for advancing reproducible oncology discovery studies, 2025.

- Postdoctoral research distinction for contributions to transcription and RNA biology, 2022.
- Scientific communication recognition for clear cross functional research presentations, 2024.

EDUCATION

Doctor of Philosophy in Molecular Biology	2020
University of California, Davis GPA: 4.0	Davis, CA
<i>Coursework: Molecular biology, RNA biology, transcriptional regulation, cellular biology</i>	
Bachelor of Science in Biochemistry	2015
University of Oregon GPA: 4.0	Eugene, OR
<i>Coursework: Biochemistry, biophysics, molecular biology, protein chemistry</i>	

CERTIFICATIONS

- Responsible Conduct of Research Training 📅 2026
- Laboratory Biosafety Training 📅 2026

TECHNICAL SKILLS

- **Binding Assays:** SPR, BLI, fluorescence polarization, ITC, EMSA
- **Protein Biochemistry:** Protein expression, protein purification, protein reconstitution
- **Nucleic Acid Biology:** RNA analysis, DNA binding, protein nucleic acid interactions
- **Molecular Biology:** Cloning, construct design, molecular perturbation
- **Cell Biology:** Mammalian cell culture, cancer cell models, cellular readouts
- **Complex Biology:** Multi subunit complexes, ribonucleoprotein assemblies, endogenous complexes
- **Cancer Research:** Tumor dependencies, cancer signaling, oncology target validation
- **Transcription Research:** Transcriptional regulation, lineage factors, transcriptional programs
- **Chromatin Research:** Chromatin regulation, chromatin associated complexes, epigenetic mechanisms
- **RNA Research:** RNA biology, RNA binding proteins, cellular RNA analysis
- **Discovery Research:** Target identification, mechanism of action, therapeutic hypotheses
- **Research Operations:** Experimental design, reproducibility, research reporting
- **Scientific Communication:** Scientific presentations, research reports, manuscript development
- **Cross Functional Work:** Oncology biology, structural biology, translational medicine
- **Computational Collaboration:** Computational science, mechanistic modeling, data interpretation

SKILLS

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|------------------------|--------------------------|------------------------|----------------------------|
| • Oncology Research | • Molecular Biology | • RNA Biology | • Scientific Communication |
| • Cancer Biology | • Mammalian Cell Culture | • Chromatin Regulation | • Binding Assays |
| • Protein Biochemistry | • Protein Purification | • Target Validation | • Reproducible Science |
| • Biophysics | • Complex Reconstitution | • Mechanism of Action | |

PROFESSIONAL AFFILIATIONS

- American Association for Cancer Research member, supporting continued engagement with cancer biology research.
- RNA Society member, following advances in RNA biology, regulation, and molecular mechanisms.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST