

Melody Cox

Scientist, Oncology Research

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STRENGTHS

- 🔬 **Mechanistic Research**
Connected purified complex behavior with cancer cell readouts, giving project teams clearer evidence for target decisions.
- ⚙️ **Assay Development**
Built orthogonal binding assays across SPR, BLI, ITC, and EMSA. Teams gained confidence in direct interaction results.
- 🧩 **Complex Reconstitution**
Reconstituted multi subunit and ribonucleoprotein assemblies. Careful controls made difficult experiments easier to interpret.
- 🧑‍🔬 **Cross Functional Science**
Worked with chemistry, structural, translational, and computational partners. Shared questions kept several programs moving.
- 💬 **Scientific Communication**
Presented data with controls, limits, and next steps. Research reviews became practical decision points for collaborators.

SKILLS

Oncology Research Cancer Biology

Protein Biochemistry Biophysics

Molecular Biology

Mammalian Cell Culture

Protein Purification

Complex Reconstitution

RNA Biology Chromatin Regulation

Target Validation

Mechanism of Action

Scientific Communication

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

Redwood Oncology Labs 📅 April 2024 - Present 📍 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

Pacific Crest Biotherapeutics 📅 July 2022 - March 2024 📍 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

Bayview Institute for Molecular Medicine 📅 October 2020 - June 2022 📍 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.

LANGUAGES

English Native

Spanish Intermediate

MY CAREER



● Scientist, Cancer Biology at Redwood Oncology Labs (2.4 Years)

● Associate Scientist, Molecular Oncology at Pacific Crest Biotherapeutics (1.7 Years)

● Postdoctoral Research Fellow, Transcription and RNA Biology at Bayview Institute for Molecular Medicine (1.7 Years)

- 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

University of California, Davis 🎓 GPA: 4.0 📅 2020 📍 Davis, CA

Coursework: Molecular biology, RNA biology, transcriptional regulation, cellular biology

Bachelor of Science in Biochemistry

University of Oregon 🎓 GPA: 4.0 📅 2015 📍 Eugene, OR

Coursework: Biochemistry, biophysics, molecular biology, protein chemistry

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

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.

ADDITIONAL INFORMATION

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

REFERENCES

AVAILABLE ON REQUEST