

JUYEON KO, PH.D.

Highly Motivated UCSD Alumni with Solid Experience in Drug Discovery & Target Validation
Seeking Biosciences Breakthrough and New Challenges in the AI-Driven Era



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EDUCATION

Univ. of Cal San Diego, La Jolla, CA

Ph.D. in Chemistry (Biochemistry / Molecular Biology / Cancer Biology)
Graduated in Jan 2021

Chung-Ang University, Seoul, S Korea

Bachelor of Sc., Chemistry
Graduated in Feb 2014

PROFILE SUMMARY

Cell & molecular biologist with 10+ years of experience in oncology drug discovery, specializing in CRISPR-based functional genomics, target identification, and mechanistic validation in disease-relevant cell models.

Proven in executing proof-of-concept studies, developing scalable cell-based assays, applying mechanistic biomarkers, and collaborating across discovery, chemistry, and translational teams.

DOMAIN PROFICIENCIES

- Cell culture: 2D/3D organoids, iPSC culture, proliferation & viability assays, drug resistance assays
- CRISPR/Cas9, siRNA/shRNA, cloning, ligation, PCR, qPCR, RNA isolation, overexpression of WT/mutants (plasmids, lentivirus)
- Small molecule inhibitors, fragments, PROTACs / degraders
- Western blot, IP, kinase assays, ubiquitination assays, TR-FRET
- High-content imaging, live-cell imaging, immunofluorescence, FISH/IF-FISH
- Flow cytometry (BD certified)

RELEVANT EXPERIENCE

Boundless Bio, Inc. | San Diego, CA

Sr Scientist, Drug Discovery & Target ID/Validation 3/2021 – 8/2024

- Designed and generated 200+ engineered mammalian cell lines using CRISPR/Cas9 and lentiviral systems (knockout, knockdown, inducible expression) to support functional genomics, target identification, and mechanistic validation in oncology models.
- Developed and optimized medium- to high-throughput cell-based assays, integrating plate-based and imaging-based phenotypic readouts to interrogate gene function, pathway modulation, and mechanism of action.
- Applied CRISPR-based functional genomics and RNAi approaches in combination with RNA-seq and mechanistic biomarkers to prioritize targets and validate functional dependencies for early discovery programs.
- Led collaborative projects as program lead spanning target ID through hit-to-lead, and screening with internal teams and CROs (protein sciences, structural biology, FBDD, SPR, ASMS, TR-FRET screening).
- Collaborated with computational, biology, and external partners to define assay requirements, experimental workflows, and data quality standards across outsourced and internal studies.
- Co-inventor on a patent targeting extrachromosomal DNA positive cancers, reflecting innovative application of functional genomics and deep understanding of disease biology to novel therapeutic target platforms.
- Effectively communicated results and strategic recommendations to leadership, SAB members, and cross-functional teams, translating complex datasets into actionable discovery and platform decisions.

University of California San Diego | La Jolla, CA

Graduate Researcher (Ph.D.) in Donoghue Lab 9/2014 – 1/2021

- Developed and optimized a novel 3D cell culture system for a human patient prostate iPSC-derived cell line to aid the enrichment of stem/progenitor-like cells overexpressing FGFR in prostate cancer, resulting in a first-author publication.
- Investigated differential gene expression and drug response in prostate cancer models, identifying translational gaps between preclinical and clinical data.
- Characterized FGFR ligand-receptor binding, internalization, and downstream kinase signaling using western blot, immunofluorescence, and cell-based assays to elucidate molecular mechanisms relevant to targeted therapies.
- Elucidated a novel ubiquitination-dependent mechanism regulating IKK β and NF κ B-STAT3 signaling, revealing key insights into inflammatory and oncogenic pathway activation.
- Applied extensive molecular biology and protein biochemistry techniques to design, generate, and functionally characterize IKK β variant constructs, employing kinase assays, ubiquitination analysis, BioID proximity labeling, LC-MS/MS proteomics, and cell-based assays (ELISA, IF, RT-qPCR).

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AWARDS & ACHIEVEMENTS

- UCSD TA Excellence Award (2017, 2019)
- Guest Speaker, Mesa College (2025)
- Featured Interview, *SD Voyager Magazine* (2025)
- Exhibitor, East County Manufacturing Expo — *Senator's Recognition Award* (2025)
- State-Licensed Financial Professional — Life & Health Insurance; Investment Advisor (2025–Present)

HOBBIES/ INTERESTS

- Reviewer for *Oncotarget & Cancer Cell International*
- Financial planning
- Pickleball, gardening, photography

STRENGTH FINDER 2.0



RELEVANT EXPERIENCE (CONT'D)

University of California San Diego | La Jolla, CA

Lab Teaching Assistant

1/2015 – 6/2020

- ♦ Led the chemistry laboratory training for five consecutive years; ensuring safe and efficient experiments while teaching concepts, demonstrating strong mentorship and training of junior members in both small and large-scale courses, developing the ability to anticipate the needs of diverse roles.
- ♦ Demonstrated leadership and excellent communication skills resulting successful laboratory reading and desirable scientific outcomes.

OTHER EXPERIENCE

CottonBubble LLC | San Diego, CA

Founder/ Independent Consultant

9/2024 – present

- ♦ Owner of a start-up enterprise; managed end-to-end planning to execution across product R&D, manufacturing, regulatory compliance, legal, finance, and retail commercialization to support new business development and ventures.
- ♦ Coordinated with vendors and business partners to ensure alignment on deliverables, timelines, and rollout across eight California locations, demonstrating cross-functional leadership and program management.

PUBLICATIONS & POSTERS

- ♦ Sudhir Chowdhry, ..., **Juyeon Ko**, | Tumors driven by oncogene amplified extrachromosomal DNA (ecDNA) demonstrate enhanced sensitivity to cell cycle checkpoint kinase 1 (CHK1) inhibition [abstract]. In: Proceedings of the American Association for Cancer Research Annual Meeting 2023; Part 1 (Regular and Invited Abstracts); 2023 Apr 14-19; Orlando, FL. Philadelphia (PA): AACR; Cancer Res 2023;83(7_Suppl):Abstract nr 1626.
- ♦ **Ko J.**, Meyer A. N., Haas M., Donoghue D. J. | Characterization of FGFR signaling in prostate cancer stem cells and inhibition via TKI treatment. *Oncotarget*. 2021; 12: 22-36. (PMID: 33456711)
- ♦ Meyer AN, Gallo LH, **Ko J**, et al. | Oncogenic mutations in IKK β function through global changes induced by K63-linked ubiquitination and result in autocrine stimulation. *PLoS One*. 2018;13(10):e0206014. Published 2018 Oct 18. doi:10.1371/journal.pone.0206014 (PMID: 30335863)
- ♦ Gallo LH, **Ko J**, Donoghue DJ. | The importance of regulatory ubiquitination in cancer and metastasis. *Cell Cycle*. 2017;16(7):634-648. 1080/ 15384101. 2017.1288326. (PMID: 28166483)