Frederick Sanger

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QUALIFICATIONS SUMMARY

- Nearly 8 years of clinical disease x scientist experience in small molecules, monoclonal antibodies, drug conjugates across various phases of drug development
- Led multiple projects encompassing x and x indications by executing strategic development plans and key clinical decisions
- Strong interprofessional skills by maintaining relationships and collaborations with key opinion leaders (KOLs) and investigators on advisory boards, steering committees, and publications

DRUG DEVELOPMENT EXPERIENCE

Senior Director, Clinical Science (Month Year – Present)
Science Co.1 | *xxx, CA*

- Lead clinical science aspects for xyz, a monoclonal antibody that targets xyz receptor expressing tumors and their stromal microenvironment
  - Monitor xxx, a phase I/II study in patients with hematologic malignancies, including xxx, xxx, and xxx
  - Perform back-up drug safety science duties, including managerial responsibility of drug safety operations associate
  - Drive the clinical development and plan initiation of xxx program in xxx disease
- Manage clinical science startup activities for xxx, a monoclonal antibody that targets soluble xxx for investigational treatment of xxx
  - Contribute to investigator engagement to modify protocol eligibility to better capture target population of xxx, pending FDA approval

Medical Director (Month Year – Month Year)
Associate Medical Director (Month Year – Month Year)
Science Co.2 | *xxx, CA*

- Represented clinical science for xxx, an xxx inhibitor, in due diligence and other collaborative activities associated with xxx Biotech partnership
- Contributed to the development of xxx in xxx markers of x disease
- Monitored the xxx program on x disease, including xxx and xxx**,** providing key contributions to data acquisition, interpretation and FDA interactions to successfully remove full clinical hold (date) on the program due to a xxx safety
- Advised xxx1000, a x-conjugate, phase II studies for evaluation of primary xxx and xxx from advanced xxx diseases
- Developed a plan for xxx and evaluated investigator-sponsored trials (ISTs) in other potential indications, including xxx, xxx, and xxx disease markers
- Participated in internal working groups, including translational research/diagnostics, xxx in xxx markers, and drug safety signal detection/evaluation

Clinical Science Specialist (Month Year – Month Year)
Clinical Scientist (Month Year – Month Year)
Science Co.3 | *xxx, CA*

- Led clinical scientist on a global Phase III study of xxx, an antibody-drug conjugate, compared to treatment of physician's choice in patients with xyz-positive x disease
- Managed Phase Ib/II xxx + xxx combination study and a xxx treatment extension study
- Presented xxx clinical data and development strategy during commercial and marketing driven community x disease advisory boards
- Authored study protocols, amendments, informed consent forms (ICFs), regulatory documents, and clinical study reports
- Reviewed and offered scientific input on study budgets, vendor proposals/charters and other operational documents and processes

- Prepared clinical and clinical pharmacology abstracts/posters/presentations on xxx for congress meetings
- Represented clinical science on the xxx US label team and assisted in drafting the United States Product Information (USPI) for the biologics license application (BLA) submission to the FDA
- Performed extensive safety analyses on a potential hepatic signal across phase I/II xxx studies and presented findings to the Science Co. Drug Safety Committee

Senior Clinical Science Manager (Month Year – Month Year)
Science Co.4 | *xxx, CA*

- Developed and upheld xxx product specific knowledge base for oncology indications with the following small molecule inhibitors
  - xxx100 (xxx, xxx, xxx) in x including x markers
  - xxx100 (xxx, xxx, xxx) in x markers and x diseases
  - xxx100 (xxx, xxx) in x including x and x diseases
- Attended and presented at site initiation visits and investigator meetings
- Engaged in discussions with KOLs for the purposes of protocol development, advisory boards and steering committees
- Consulted with external vendors and contract research organizations (CROs) for partnering opportunities
- Drafted protocols/amendments, ICFs, and updated Investigator Brochures for xxx100 and xxx100
- Maintained and communicated clinical status on enrolled subjects (e.g. safety, efficacy, PK/PD data) to the team
- Reviewed and cleaned clinical data on a regular basis and assisted medical monitor and worked with investigators on resolving clinical issues

POST-DOCTORAL FELLOWSHIP EXPERIENCE

Drug Development Fellow (Month Year – Month Year)
University of California, San Francisco (UCSF) – *School of Pharmacy | San Francisco, CA*

- Conceived and provided input on development of xxx, a xxx anti-x disease compound
- Wrote protocol concept for a clinical pharmacology study and interfaced with xxx global matrix teams and Senior Management to gain endorsement
- Collaborated with the U.S. State Government and the x disease Foundation on development of xxx, a xxx anti-x disease compound
- Contributed to development of xxx by serving as co-investigator and study coordinator on a clinical pharmacology and food-effect study
- Conducted a comprehensive and critical review of FDA IND review practices and metrics for an x-year period following implementation of the FDA xxx Act
- Shared key findings broadly with Regulatory Senior Management, which made significant impact on IND submission strategy

Drug Development Fellow (Month Year – Month Year)
University of California, San Francisco (UCSF) – *School of Pharmacy | San Francisco, CA*

- Served as sub-investigator or study coordinator for three clinical studies in x field drug development that included the evaluation of x biomarkers, PK, drug-drug interactions, and metabolism
- Gained proficiency in clinical protocol development and study management, recruitment (healthy volunteers and patients), data analysis, and abstract/manuscript writing
- Completed coursework in research ethics, clinical trial design, biostatistics, and pharmacovigilance

AWARDS & RECOGNITION

Presidential Trainee Award, *American Society for Clinical Pharmacy* (Month Year)
Pharmacology and Therapeutics Award, *American Society for Clinical Pharmacology* (Month Year)
Clinical Research Award, *UCSF* (Month Year)
National Science Foundation Fellowship, *National Science Foundation* (Month Year)
Dean's Public Service Award, *UCSF* (Month Year)

PROFESSIONAL LEADERSHIP & SERVICE

American Society of Clinical Pharmacology and Therapeutics (Month Year – Month Year)
American College of Clinical Pharmacy – Northern California Region Chair (Month Year – Month Year)
American Society of Clinical X Field – California Regional Committee Member (Month Year – Month Year)

EDUCATION

Doctor of Pharmacy, University of California, San Francisco (UCSF) Month Year (Graduation Date)
Bachelor of Sciences, Biology, University of San Francisco (USF) Month Year (Graduation Date)

PRESENTATIONS

A.R. Coulson, **Frederick Sanger**, and S. Nicklen. *DNA Sequencing with Chain-Terminating Inhibitors.* Proceedings of the National Academy of Sciences. Month, Year.

A.R. Coulson and **Frederick Sanger**. *The Use of Thin Acrylamide Gels for DNA Sequencing.* Federation of European Biochemical Societies [abstract]. Month, Year.

D.C. Shaw and **Frederick Sanger**. *Amino Acid Sequence about the Reactive Serine of a Proteolytic Enzyme from Bacillus subtilis.* Nature [abstract]. Month, Year.

Frederick Sanger. *The Chemistry of Insulin.* Les Prix Nobel. Month, Year.

PUBLICATIONS

A.P. Ryle and **Frederick Sanger**. *Disulphide Interchange Reactions.* Biochemistry Journal. Month, Year.

E.O.P. Thompson and **Frederick Sanger**. *The Amino-Acid Sequence in the Glycyl Chain of Insuiln. II. The Identification of Lower Peptides from Partial Hydrolysates.* Biochemistry Journal. Month, Year.

E.O.P. Thompson and **Frederick Sanger**. *The Amino-Acid Sequence in the Glycyl Chain of Insuiln. I. The Identification of Lower Peptides from Partial Hydrolysates.* Biochemistry Journal. Month, Year.

Frederick Sanger and Hans Tuppy. *The Amino-Acid Sequence in the Phenylalanyl Chain of Insuiln. II. The Investigation of Peptides from Enzymic Hydrolysates.* Biochemistry Journal. Month, Year.

Frederick Sanger and Hans Tuppy. *The Amino-Acid Sequence in the Phenylalanyl Chain of Insuiln. I. The Investigation of Peptides from Enzymic Hydrolysates.* Biochemistry Journal. Month, Year.

Frederick Sanger. *The Free Amino Groups of Insulin.* Biochemistry Journal. Month, Year.

Frederick Sanger. *The Terminal Peptides of Insulin.* Biochemistry Journal. Month, Year.

IN SUBMISSION

J.E. Donelson, A.R. Coulson, H. Kossel, D. Fischer, and **Frederick Sanger.** *Use of DNA Polymerase I Primed by a Synthetic Oligonucleotide to Determine a Nucleotide Sequence in Phage f 1 DNA.* (submitted to the Proceedings of the National Academy of Sciences)

A.R. Coulson, G.F. Hong, D.F. Hill, **Frederick Sanger,** and G.B. Petersen. *Nucleotide Sequence of Bacteriophage λ DNA.* (submitted to Nature)

A.P. Ryle, **Frederick Sanger**, L.F. Smith, and R. Kitai. *The Disulphide Bonds of Insulin.* (submitted to Biochemistry Journal).