

Postdoctoral Research Fellow

Be a part of the legacy: Postdoctoral Research Fellow Program

Our Research Laboratories' Postdoctoral Research Fellow Program aims to be a best-in-industry program for industrial postdoctoral researchers, designed to provide you with an academic focus in a commercial environment. With the resources, reach, and expertise of a large pharmaceutical company, postdoctoral researchers will be positioned to excel in an institution committed to breakthrough innovation in research and discovery.

What You'll Be Doing:

The aim of the research is to better understand interactions driving PXR binding and mitigate the liability of PXR-active compounds by utilizing a structure-guided drug design approach. More specifically, the research will involve:

- Identification of compounds, via mining of internal data, for which small chemical structure changes result in large differences in functional PXR activation
- Improved characterization of the energetics underlying compound binding to PXR using biophysics techniques (e.g. ITC) with an aim to correlate measured thermodynamic parameters with functional activation and structural determinants of the identified compounds
- Evaluation of PXR conformational flexibility and how it is affected upon compound binding through NMR and room-temperature crystallography
- Development of an improved PXR protein construct for cocrystallization of PXR activators to provide information suitable for SBDD

Responsibilities include but are not limited to:

- Structure/function analysis of PXR ligand binding domain with compounds demonstrated to bind and activate the receptor using existing and newly-generated structures and activity measurements
- Collaboration with coworkers with cheminformatics, biophysical, protein expression/purification, and macromolecular structural expertise

- Participation in scientific group meetings and other presentation opportunities, both internal and external

What You Bring:

- Candidates must currently hold a PhD OR receive a PhD by fall.
- Documented experience with at least two of the following techniques:
 - Macromolecular crystallography
 - Biomolecular NMR spectroscopy
 - Biophysical binding assessment using isothermal titration calorimetry
 - Recombinant protein expression and purification from bacterial culture
 - Primary author on at least one peer-reviewed publication in the last three years

Preferred Experience and Skills:

- Excellent oral and written communication skills
- Ability to work collaboratively
- Macromolecular crystallography
- Biomolecular NMR spectroscopy
- Biophysical binding assessment techniques (e.g. ITC, SPR, FP, TSA)
- Recombinant protein expression and purification from bacterial culture
- Comfort working in a Linux-based computing environment
- An open mind and a willingness to learn

We are a research-driven biopharmaceutical company. Our mission is built on the simple premise that if we “follow the science” and that great medicines can make a significant impact to our world. And we believe that a research-driven enterprise dedicated to world-class science can succeed by inventing medicine and vaccine innovations that make a difference for patients across the globe.

Who we are ...

Merck & Co., Inc., Kenilworth, New Jersey, USA is known as “Merck” in the United States, Canada & Puerto Rico. We are known as “MSD” in Europe, Middle East, Africa, Latin America & Asia Pacific.

We are a global biopharmaceutical leader with a diverse portfolio of prescription medicines, oncology, vaccines and animal health products.

We are driven by our purpose to develop and deliver innovative products that save and improve lives. With 69,000 employees operating in more than 140 countries, we offer state of the art laboratories, plants and offices that are designed to Inspire our employees as we learn, develop and grow in our careers. We are proud of our 125 years of service to humanity and continue to be one of the world's biggest investors in Research & Development.

What we look for ...

In a world of rapid innovation, we seek brave Inventors who want to make an Impact in all aspects of our business, enabling breakthroughs that will affect generations to come. We encourage you to bring your disruptive thinking, collaborative spirit and diverse perspective to our organization. Together we will continue Inventing For Life, Impacting Lives while Inspiring Your Career Growth.

INVENT.

IMPACT.

INSPIRE.

If you need an accommodation for the application process please email us at staffingaadar@merck.com

For more information about personal rights under Equal Employment Opportunity, visit:

[EEOC Poster](#)

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OFCCP Pay Transparency Rule

We are an equal opportunity employer, Minority/Female/Disability/Veteran – proudly embracing diversity in all of its manifestations.

Search Firm Representatives Please Read Carefully

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Employee Status: Regular

Relocation: Domestic/International

VISA Sponsorship: Yes

Requisition ID:R28296

For more details including how to apply, please follow this link: <https://jobs.merck.com/us/en/job/R28296>