

## Senior Scientist (m/w/d) - AI/ML Antibody Modeling (TCRm & pHLA)

Full-Time | Emmendingen | Freiburg Region | Posted: November 2025

### Who we are

BioCopy is pioneering next-generation TCRm antibody therapeutics by unlocking the pHLA target space. Our ValidaTe platform uniquely integrates high-throughput wet-lab screening, structural insights, and AI to rapidly identify, validate, and optimize highly specific antibody candidates.

### Key responsibilities

#### Antibody & Protein Modeling

- Develop and apply deep learning and generative AI methods for antibody sequence and structure design.
- Build and refine protein language model-based pipelines for binding prediction, specificity optimization, and in silico affinity maturation.
- Implement structure-based and sequence-based tools for antibody-pHLA modeling and co-optimization.

#### AI/ML Development

- Design, train, and validate ML models using BioCopy's internal datasets (e.g., peptide array binding data, ValidaTe outputs, structural features, PLM embeddings).
- Integrate geometric DL, transformer architectures, and multimodal models into antibody engineering workflows.
- Establish best practices for data preprocessing, model evaluation, and reproducible research.

#### Cross-Functional Collaboration

- Work closely with antibody engineers, pHLA biology experts, and software engineers to co-design molecules and translate model predictions into wet-lab experiments.
- Contribute to BioCopy's AI roadmap and help build scalable, maintainable computational infrastructure.
- Present results clearly to internal teams and leadership.

### Who You Are

- Hold a PhD in computational biology, structural biology, machine learning, bioinformatics, or a related field.
- Have strong experience with deep learning for proteins, such as:
  - Protein language models (transformers)
  - Geometric deep learning (GNNs, equivariant networks)
  - Generative models (diffusion, VAEs)
- Are proficient in Python and frameworks like PyTorch, JAX, or TensorFlow.
- Have experience with antibody modeling, protein structure prediction, or immunology (a strong plus).
- Enjoy working in a fast-paced, highly collaborative biotech environment.
- Are motivated by scientific impact and want to help shape a young and ambitious AI program from the ground up.



## What We Offer

- Unlimited employment and 30 days leave
- Flexible work hours, work-life balance
- Opportunity to build BioCopy's AI/ML capabilities at a pivotal stage of growth.
- Close integration with wet-lab teams and real experimental feedback loops.
- Work on cutting-edge problems in TCRm design and pHLA targeting.
- A collaborative, low-bureaucracy environment where your ideas directly shape strategy.
- Competitive compensation package
- Modern office & lab environment in the Freiburg region with flexible working options.

## To Apply:

Please submit your application (max. 10Mb) to [career@biocopy.de](mailto:career@biocopy.de) stating your earliest starting date and job Reference: JOB VACANCY P031.