Affibody is a clinical stage radiopharmaceutical company developing next generation Radioligand Therapies (RLTs) designed to deliver highly selective tumor targeting across a wide range of cancers based on its unique proprietary technology platforms: Affibody® molecules and Albumod® half-life extension technology.

In the department of preclinical research, we develop and characterize new Affibody® molecules. The ones with the most interesting properties are then selected as CD (Candidate Drug). In the spring of 2027, we are planning a 30 credits degree project with the preliminary title:

Development of fluorescence labelled HSA assays for detection of cellular internalization of receptor bound Affibody® molecules

Background:

Affibody AB runs several early discovery projects aimed at identifying novel, clinically relevant Affibody® molecules. Candidate molecules are subjected to a broad spectrum of *in vitro* pharmacology studies to characterize their activity. A key aspect to support Affibody's innovative radiopharmaceutical pipeline is to identify Affibody® molecules with strong and specific binding to cellular receptor targets. If those Affibody® molecules are internalized, it might promote a higher and more prolonged radiation dose to the tumor cell.

Execution:

Cell binding assays are commonly used to identify molecules that can bind to tumor cell targets. A cell internalization assay measures how much of a ligand, Affibody® molecule, is taken up into cells after binding. If the targeting molecule is a monoclonal antibody, there are several commercially available reagents for detection of both bound and internalized antibodies. With Affibody® molecules, an extra staining step with proprietary antibody reagents is currently needed. The project aims to develop alternative ways of visualizing cell-bound and internalized Affibody® molecules by utilizing the strong interaction between the albumin-binding domain (ABD), often incorporated in Affibody® molecules for half-life extension, and human serum albumin (HSA). If there is time, other alternative staining techniques will also be explored.

Key features included in the project:

- Evaluate different pH sensitive fluorophores and techniques for labeling HSA.
- Perform routine cell culture in a sterile environment.
  - Develop and optimize cell staining protocols for different tumor *in vitro* cell models.
  - Develop and optimize acid-wash methods for separating surface-bound and internalized material.
- Analyze stained cells with flow cytometry, in a plate reader and depending on instrument availability, the live cell imaging platform Incucyte®.
- Quality testing of the final new protocol.

Supervisor: Malin Ryner, PhD. If you have any questions, please contact: malin.ryner@affibody.se. Affibody AB, Scheeles väg 2, 171 65 Solna.

Application: If you are interested, send your personal letter and CV to jobs@affibody.se latest October 16th, 2026, and mark your application with **EX050**.