

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.

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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**.