

Would you like to harness synthetic biology to study brain transport and create new systems for brain delivery?

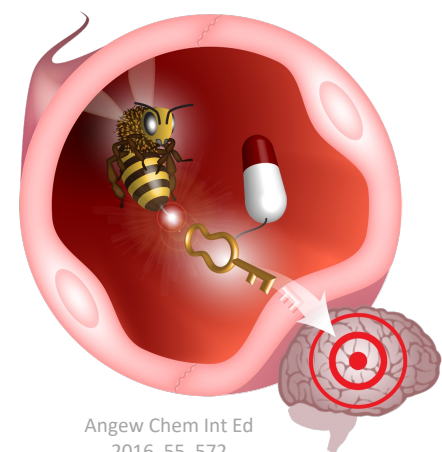
The project and the team

Current treatments against brain diseases have very low efficacy due to the incapacity of most drugs to cross the blood-brain barrier (BBB) and target particular cell populations. In our group we are developing targeted delivery systems that transport biotherapeutics across the BBB.

We have recently been awarded a highly prestigious grant by the European Research Council to develop new strategies to deliver large therapeutics into the brain with unprecedented efficiency and selectivity. In your PhD project, you will be applying cellular and synthetic biology, as well as protein engineering, to study transcytosis at the BBB and create a paradigm-shifting system for brain delivery.

You'll be part of a young, dynamic, and international team at IQS Barcelona. We invite you to visit our website www.pptn.iqs.edu

We aim to contribute to pushing the boundaries of knowledge but our main goal is to grow and enjoy science together!



Your profile

- MSc degree, 60 ECTS credits at the master's level or equivalent.
- Background in biotechnology, cell/molecular biology, biochemistry, or related
- Experience in molecular biology and protein engineering will be valued
- Strong motivation, proactivity and creativity
- Good social skills to work in a team
- Excellent communication skills and fluency in English

Fellowship details

- Three years of funding with a competitive salary and with the potential of an extension to a fourth year
- Many training opportunities and space for creativity
- Expected starting date: preferably May 2023, September 2023 the latest

Applications are welcome until February 28th or until the candidate is selected

You may send your application to Dr. Benjamí Oller Salvia at benjami.oller@iqs.url.edu. Please include the following documents in a single pdf with your name:

- Motivation letter explaining your research experience, your main interests, and why you would be a good fit for this position
- Two reference letters and contact details of the referees who wrote them
- CV
- Academic record

Please include "PhD SynBioBrain" in the subject line of your email. Early applications are encouraged.

Would you like to generate smart antibody biotherapeutics targeting brain tumors?

The project and the team

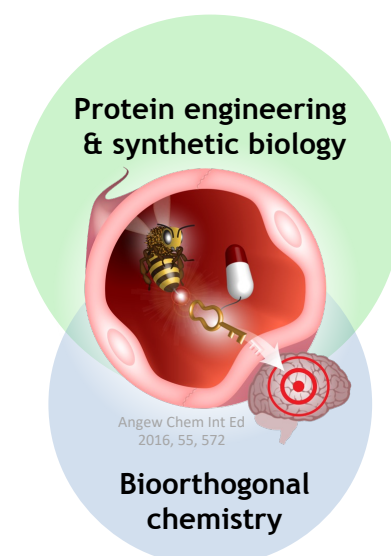
Current treatments against brain tumors have very low efficacy due to the incapacity of most drugs to cross the blood-brain barrier (BBB) and to eliminate resistant cell populations.

In our group, we are developing efficient delivery systems to transport targeted nano- and bio-therapeutics across the BBB for the treatment of brain tumors. To support this challenging endeavor, we have recently received a highly prestigious grant from the European Research Council. In parallel, we are developing new strategies to render conditionally active antibodies capable of engaging targets previously considered undruggable.

In your project you will be applying antibody engineering and biorthogonal chemistry to create smart brain permeable antibodies and conjugates.

You'll be part of a young, dynamic, and international team at IQS Barcelona! We invite you to visit our website www.pptn.iqs.edu

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Your profile

- MSc degree, 60 ECTS credits at the master's level, or equivalent.
- We may also consider applications for a postdoc from PhD degree holders.
- Background in biotechnology, chemistry, pharmacy, or related
- Experience in protein engineering and some knowledge of chemistry is not essential but will be valued
- Strong motivation, proactivity and creativity
- Good social skills to work in a team. Excellent communication skills and fluency in English

Fellowship details

- Three years of funding with a competitive salary and with the potential of an extension to a fourth year
- Many training opportunities and space for creativity
- Expected starting date: preferably March 2023, September 2023 the latest

Applications are welcome until February 28th or until the candidate is found

You may send your application to Dr. Benjamí Oller Salvia at benjami.oller@iqs.url.edu. Please include the following documents in a single pdf with your name:

- Motivation letter explaining your research experience, your main interests, and why you would be a good fit for this position
- Two reference letters and contact details of the referees who wrote them
- CV
- Academic record

Please include "Biotherapeutics offer" in the subject line of your email. Early applications are encouraged.

Are you interested in contributing to generate more efficient gene therapies utilizing protein splicing?

The project and the team

Adeno-associated viruses (AAV) is one of the most extensively used vectors for gene therapies. However, AAVs can only package and deliver small genes. The company SpliceBio has developed a technology that enables solving this problem by delivering a gene in two fragments encoded in different viruses. Upon transduction, the technology enables the ligation of the two protein fragments inside a cell resulting in the generation of the whole functional protein. The process of intracellular protein ligation is based on the use of engineered split inteins, which are eventually excised from the functional protein. In this project, we will aim to develop an approach that may enable increasing the production of the target protein by degrading the inteins resulting from splicing.

This project will combine the expertise in gene delivery and protein ligation of SpliceBio (<https://splice.bio/>) with the experience in library screening and protein engineering of the Laboratory of Therapeutic Proteins (<https://www.pptn.iqs.edu/>) at IQS Barcelona.

You may find more information here: <https://doctoratsindustrials.gencat.cat/en/doctorats/enhancing-%20intein-degradation-and-efficient-intracellular-ligation-of-therapeutic-proteins/>

Your profile

- MSc degree, 60 ECTS credits at the master's level or equivalent.
- Background in biotechnology, cell/molecular biology, biochemistry, or related
- Strong motivation, proactivity and creativity
- Good social skills to work in a team
- Excellent communication skills and fluency in English

Fellowship details

- Three years of funding with a competitive salary.
- Many training opportunities and space for creativity
- Expected starting date: preferably May 2023, September 2023 the latest

Applications are welcome until February 28th or until the candidate is selected

You may send your application to Dr. Silvia Frutos and Dr. Benjamí Oller Salvia at silvia.frutos@splice.bio and benjami.oller@iqs.url.edu Please include the following documents in a single pdf with your name:

- Motivation letter explaining your research experience, your main interests, and why you would be a good fit for this position
- Two reference letters and contact details of the referees who wrote them
- CV
- Academic record

Please include "PhD SpliceBio-IQS" in the subject line of your email. Early applications are encouraged.