

PRESS RELEASE

VIOLET Pharmaceuticals, the new spin-off of the Hospital del Mar Research Institute Barcelona, increases the effectiveness of immunotherapies for metastatic cancer

- *It aims to develop the first treatment based on mRNA therapy to boost the efficacy of immunotherapy for this type of tumour.*
- *The new company, a spin-off of the Hospital del Mar Research Institute Barcelona, plans to launch its first human clinical trial in 2028 to validate the safety of this approach.*
- *The project is led by Drs. Toni Celià-Terrassa and Joan Albanell, pioneers in the development of nanotherapies designed to transform tumours that are resistant to immunotherapy into tumours that are vulnerable to treatment.*

Barcelona, December 16th, 2025 — There is currently no specific treatment for metastatic cancers that focuses on the **tumour's invisibility to immune system cells**. Tumour cells evade immune surveillance because of defects in the set of molecules and cellular processes that regulate the presence of antigens on the cell surface, which are required for recognition by the immune system. But now **VIOLET Pharmaceuticals** has been created with the aim of developing a solution to this challenge.

This spin-off of the Hospital del Mar Research Institute Barcelona seeks to make tumour cells visible by forcing them to overexpress the LCOR protein, which regulates tumour "visibility" by promoting the presentation of neoantigens. **"By forcing tumour cells to express LCOR, we can make them visible to the immune system. By combining LCOR with immunotherapy, we open the door to treating metastatic breast cancer,"** explains Dr Toni Celià-Terrassa, Chief Scientific Officer of VIOLET Pharmaceuticals and coordinator of the Cancer Stem Cells and Metastasis Dynamics Laboratory at the Hospital del Mar Research Institute.

To achieve this, the new company aims to advance the development of the **first treatment based on mRNA therapy for metastatic breast cancer**. The goal is to develop a nanotherapy that enhances immunotherapy's effectiveness, following the model of mRNA vaccines used against COVID-19. **LCOR messenger RNA** would be responsible for inducing tumour cells to express the LCOR protein, thereby properly activating neoantigen presentation on the tumour cell surface to facilitate immune detection and elimination.

This translational research, led by Dr. Celià-Terrassa's team, has already enabled the generation of intellectual property in a field where no treatment currently targets these mechanisms. **"Our therapy emerges as a critical alternative to make tumour cells visible and vulnerable to immunotherapy,"** he adds.

Thirty percent of breast cancer patients develop metastases, and the metastatic stage of the disease cannot be cured. Very few breast cancer patients currently benefit from immunotherapy. In experimental models, the approach pursued by VIOLET Pharmaceuticals has achieved complete responses in several preclinical models of different types of breast cancer. ***“VIOLET Pharmaceuticals is the tool that allows us to bring to life a novel alternative for treating these tumours, as there is currently no therapy on the market that acts on the mechanism allowing cancer to remain invisible,”*** states Dr Joan Albanell, Head of the Medical Oncology Department at Hospital del Mar, Director of the Cancer Research Programme at its research institute, and Medical and Clinical Director of the new company.

The new company has opened a funding round to finalise optimisation of the clinical candidate and validate its effectiveness in preclinical models of breast cancer and other cancers. The goal is to deliver the project to a pharmaceutical company between 2030 and 2032 to complete the steps required to commercialise the new therapy. The VIOLET Pharmaceuticals startup will be located at the Barcelona Biomedical Research Park (PRBB).

VIOLET Pharmaceuticals is the fourth company backed by the Hospital del Mar Research Institute Barcelona, following Palobiofarma, MedBioinformatics and Chemotargets, further consolidating the institute's experience in knowledge transfer and the valorisation of biomedical research. Through its Technology Transfer and Translation Unit, HMRIB actively promotes the creation of spin-offs as a pathway to transform research into innovative solutions with real impact on people's health, positioning the centre as a reference in transfer, translation, and biomedical innovation in Catalonia.

More information

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About the Hospital del Mar Research Institute

The Hospital del Mar Research Institute in Barcelona is a scientific research centre in the field of biomedicine and the health sciences, organised into five major research programmes: Cancer, Epidemiology and Public Health, Biomedical Informatics, Neurosciences, and Translational Clinical Research. With around 700 professionals, it ranks among the ten Spanish institutions with the greatest scientific impact in the health field.

It is a [CERCA](#) centre of the Government of Catalonia and is accredited as a Health Research Institute by the Carlos III Health Institute.