

Kilian Maire

Immunologist · Founder & CEO · PhD, Life Sciences & Health

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PROFILE

Immunologist with deep expertise in **Th2 lymphocyte biology**, in vivo models, cellular signalling, and high-throughput molecular screening. Proven track record of high-impact scientific output and award-winning presentations, combined with leadership as founder & CEO of two ventures. Mastery of flow cytometry, live imaging, primary T-cell manipulation and single-cell/bulk TCR repertoire analysis, bridged with computer vision, AI and product development for regulated laboratory environments.

EXPERIENCE

Postdoctoral Researcher 2025–present
University of Copenhagen, Skin Immunology Research Center (LEO Foundation)

Dir. Pr. Jonathan Coquet · Copenhagen, Denmark

- Investigate T-cell receptor (TCR) repertoire dynamics in inflammatory and allergic responses across human and mouse models.
- Integrate single-cell and bulk TCR repertoire analyses with high-dimensional immunophenotyping and functional assays.
- Link clonal diversity to T-cell differentiation, tissue adaptation and pathogenic potential.

Founder & CEO 2025–present
Biotraxion

Traceability platform for preclinical laboratories

- Led end-to-end product vision from scientific problem definition to system architecture, regulatory strategy and go-to-market.
- Oversaw R&D across embedded systems, computer vision, AI and cloud software, focused on compliance and traceability in regulated environments.
- Drove business strategy, fundraising materials, IP & FTO analysis, and partnerships with academic labs, hospitals and biotech/pharma.

Founder & CEO 2025–present
KIMA Holding

Holding structure behind the ventures

PhD, Life Sciences & Health (Immunology) 2021–2024
INFINITY, INSERM / CNRS, University of Toulouse

Supervisors: Pierre Lutz & Isabelle Lamsoul

- Characterised a novel pharmacological target in Th2-lymphocyte-mediated atopic disease, notably asthma.
- Ran an in vivo mouse model of airway inflammation, live imaging, and high-throughput drug-candidate screening and validation.
- Outputs: first-author **Nature Communications** paper and a European patent on rewiring Th2 responses.

MSc Research Internship 2019–2021
INFINITY (INSERM), Lesourne / Dupré team

- High-throughput screening of 1500+ small molecules; identified 2 compounds increasing filamin levels in Th2 lymphocytes.
- Techniques: plasmid transfection, ex vivo T-cell generation, flow cytometry, Western blot, RT-qPCR, ELISA.

BSc Research Internship 2017–2019
CPTP (INSERM), Guéry team

- Characterised the role of Ca_v1.2/Ca_v1.3 calcium channels in Th2 functions in physiological and pathological contexts.

Laboratory Technician Diploma

Cancer Biology Resource Center, IUCT

2015–2017

- Built a prostatic adenocarcinoma biobank and characterised prognostic factors by immunohisto/cytochemistry.

Science Teaching

Academia & University of Toulouse

2020–2024

Private tutoring and university teaching (Licence / Master)

EDUCATION & CERTIFICATION

PhD, Life Sciences & Health
University of Toulouse · Immunology
2021–2024

Master's Degree
University of Toulouse
2019–2021

Bachelor's Degree
University of Toulouse
2017–2019

Laboratory Technician Diploma
Specialisation: Life Sciences
2015–2017

FELASA Certification
Use & protection of laboratory animals
2023

Baccalauréat
Specialisation: Life Sciences
2015

SELECTED PUBLICATIONS & IP

JOURNAL ARTICLE · FIRST AUTHOR **PUBLISHED**

Fine-tuning levels of filamins A and B as a specific mechanism sustaining Th2 lymphocyte functions
Nature Communications · 2024 · Maire K., Chamy L., et al.

INVITED RESEARCH HIGHLIGHT **ACCEPTED**

From binding prediction to molecular design — computational advances in TCR–pMHC prediction and targeting
Immunology & Cell Biology · 2026 · Invited highlight of 2025 (author byline to confirm)

JOURNAL ARTICLE · CO-FIRST AUTHOR **PUBLISHED**

Increasing filamins A and B in Th2 lymphocytes as a therapeutic opportunity to attenuate airway inflammation in mice
Allergy · 2026 · Chamy L.*, Maire K.*, et al.

INTELLECTUAL PROPERTY · INVENTOR **PUBLISHED**

Methods for the treatment of type-2-mediated diseases
European Patent · WO2025032112A1 · 2025 · Maire K., Lamsoul I., Lutz P.

JOURNAL ARTICLE · CONTRIBUTOR **PUBLISHED**

PKC α interacts with Ca $_v$ 1.3 channels to promote the Ca $_v$ 1.2/Ca $_v$ 1.3 duo tuning Th2 functions
Allergy · 2022 · Giang N., Villeneuve T., Maire K., et al.

AWARDS & HONORS

Young Immunologist, Best Research Article 2025
Société Française d'Immunologie · sponsored by Miltenyi Biotec

Best Short Talk 2023
SFI & DGfI · Type-2 immunity session

SKILLS

WET-LAB & IMMUNOLOGY

Flow cytometry

Primary T-cell manipulation

In vivo mouse models

Live imaging

RT-qPCR

Western blot

ELISA

Plasmid transfection

High-throughput screening

Immunohisto/cytochemistry

COMPUTATIONAL & AI

TCR / BCR repertoire analysis

High-dimensional immunophenotyping

Single-cell & bulk analysis

Python

Agentic AI methods

Computer vision

IMGT

LEADERSHIP & BUSINESS

Company building

Product vision

Fundraising

IP & FTO

Scientific communication

Project leadership

Teaching

LANGUAGES

French, native

English, fluent / professional