



## Marco Tarullo

✉ **Email:** [marco.tarullo@uniroma1.it](mailto:marco.tarullo@uniroma1.it)

📍 **Work:** Sapienza University of Rome, Dept of Biology and Biotechnology "C. Darwin",  
P.le Aldo Moro 5, 00185 Rome (Italy)

### EDUCATION AND TRAINING

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#### PhD fellow

*Sapienza, University of Rome* [ 01/11/2022 – Current ]

City: Roma | Country: Italy | Website: [https://phd.uniroma1.it/web/GENETICA-E-BIOLOGIA-MOLECOLARE\\_nD3506\\_IT.aspx](https://phd.uniroma1.it/web/GENETICA-E-BIOLOGIA-MOLECOLARE_nD3506_IT.aspx) | Field(s) of study: Molecular Biology

- Molecular Biology
- Regulation of gene expression
- Epitranscriptomics
- m6A role in cancer progression;
- m6A involvement in gene expression regulation in physiological and pathological conditions

#### Internship at Prof. Alessandro Fatica's Lab

*Sapienza, University of Rome* [ 03/2021 – 10/2022 ]

City: Rome | Country: Italy | Website: <https://www.uniroma1.it/it/pagina-strutturale/home> | Field(s) of study: Molecular Biology

- Molecular Biology
- Regulation of gene expression
- Epitranscriptomics
- m6A role in cancer progression;
- m6A involvement in gene expression regulation in physiological and pathological conditions

#### Master Degree

*Sapienza, University of Rome* [ 10/2020 – 10/2022 ]

City: Rome | Country: Italy | Website: <https://corsidilaurea.uniroma1.it/it/corso/2023/28700/home> | Field(s) of study: Genetics and Molecular Biology | Final grade: Cum Laude | Thesis: Investigating the cytoplasmic role of METTL3 RNA methyltransferase as a translational regulator

#### Bachelor's Degree

*Sapienza, University of Rome* [ 10/2017 – 07/2020 ]

City: Rome | Country: Italy | Website: <https://corsidilaurea.uniroma1.it/it/corso/2023/30857/home> | Field(s) of study: Biology | Final grade: Cum Laude | Thesis: Next Generation Sequencing (NGS): applicazioni in oncologia molecolare

### LANGUAGE SKILLS

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**Mother tongue(s):** Italian

**Other language(s):**

#### English

LISTENING B2 READING B2 WRITING B1

SPOKEN PRODUCTION B2 SPOKEN INTERACTION B1

## DIGITAL SKILLS

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### Microsoft Office

Microsoft Word / Microsoft Powerpoint / Microsoft Excel

### Software Applications

Prism Graph Pad / image J (Laboratory Image Analysis) / SnapGene, DNAMAN, MEGA, NCBI BLAST / Image lab

## PUBLICATIONS

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[2023]

**[Enhancing sensitivity of triple-negative breast cancer to DNA-damaging therapy through chemical inhibition of the m6A methyltransferase METTL3](#)** In breast cancer, *METTL3* knockdown markedly suppresses proliferation, invasiveness, and metastasis. Therefore, *METTL3* inhibition is proposed as a therapeutic approach for breast cancer. Triple-negative breast cancer (TNBC), the most aggressive subtype, lacks targeted therapies, and its primary treatments involve conventional chemotherapy and DNA-damaging agents. Here we aimed to explore the potential of *METTL3* catalytic inhibition by STM2457 as a valuable treatment option for TNBC. Furthermore, we assessed the impact of STM2457 on the sensitivity of TNBC cells and a TNBC patient-derived organoid line to clinical DNA-damaging therapies, like platinum-based chemotherapy and the PARP inhibitor olaparib.

Cesaro B. et al., *Cancer Commun (Lond)*, 2023 Dec 15. doi: 10.1002/cac2.12509

[2023]

**[Regulation of Gene Expression by m6Am RNA Modification](#)** The field of RNA modification, also referred to as "epitranscriptomics," is gaining more and more interest from the scientific community. More than 160 chemical modifications have been identified in RNA molecules, but the functional significance of most of them still needs to be clarified. In this review, we discuss the role of N<sup>6</sup>,2'-O-dimethyladenosine (m<sup>6</sup>A<sub>m</sub>) in gene expression regulation. m<sup>6</sup>A<sub>m</sub> is present in the first transcribed nucleotide close to the cap in many mRNAs and snRNAs in mammals and as internal modification in the snRNA U2. The writer and eraser proteins for these modifications have been recently identified and their deletions have been utilized to understand their contributions in gene expression regulation. While the role of U2 snRNA-m<sup>6</sup>A<sub>m</sub> in splicing regulation has been reported by different independent studies, conflicting data were found for the role of cap-associated m<sup>6</sup>A<sub>m</sub> in mRNA stability and translation. However, despite the open debate on the role of m<sup>6</sup>A<sub>m</sub> in mRNA expression, the modulation of regulators produced promising results in cancer cells. We believe that the investigation on m<sup>6</sup>A<sub>m</sub> will continue to yield relevant results in the future.

Cesaro B. et al., *Int J Mol Sci*, 2023 Jan 23. doi: 10.3390/ijms24032277

[2024]

**[N6-methyladenosine \(m6A\) RNA modification in chronic myeloid leukemia: unveiling a novel therapeutic target](#)** Write here the description...N6-methyladenosine (m6A), the most prevalent internal mRNA modification, plays a critical role in physiological processes by regulating gene expression through modulation of mRNA metabolism at multiple stages. In recent years, m6A has garnered significant attention for a deeper understanding of the initiation, progression, and drug resistance of various cancers, including hematological malignancies. Dysregulation of m6A has been implicated in both cancer promotion and suppression. m6A methylation is a complex regulatory process involving methyltransferases (writers), demethylases (erasers), and proteins that recognize specific m6A modifications (readers). This intricate interplay presents challenges for precisely modulating m6A levels, either globally or at specific sites. This review specifically focuses on the role of m6A in chronic myeloid leukemia (CML), a blood cancer characterized by the BCR-ABL1 fusion. We emphasize its impact on leukemia cell survival and drug resistance mechanisms. Notably, inhibitors targeting m6A regulators show promise in preclinical models, suggesting a potential therapeutic avenue for CML. Integrating our understanding of m6A biology with current treatment strategies may lead to more effective therapies, especially for patients with advanced-stage or resistant CML.

Fernandez Rodriguez G. et al., *Cell Mol Life Sci*. 2024 Jul 31. doi: 10.1007/s00018-024-05379-w

## SCIENTIFIC/TECHNICAL QUALIFICATION (SOURCE: SCOPUS)

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H-index: 2

N° publications: 3

N° citations: 18

## HONOURS AND AWARDS

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[ 16/05/2024 ] Sapienza Associazione Alumni & Fondazione Roma Sapienza

**"Laureato Eccellente" award for the academic year 2021/2022** Sapienza Associazione Alumni, in collaboration with Fondazione Roma Sapienza, every year awards the best graduate students of a specific academic year that stood out for their academic and scientific accomplishments.

[ 10/2022 ] Sapienza, University of Rome

**Completion of the "Percorso di Eccellenza" for Master Degree in Genetics and Molecular Biology** As part of the study courses, Sapienza offers additional training courses, called Percorsi di Eccellenza, that can be established with the aim of enhancing the training of enrolled students who are deserving and interested in in-depth and cultural integration activities and in an approach to the methodology of scientific research. They consist of training activities additional to those of the study course in which the student is enrolled, and at the end the students who complete it are awarded a certificate.