



UNIVERSITÀ
DI SIENA
1240

Al collegio docenti del Dottorato in Medicina Molecolare

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Ciclo: XXXIII Tutor: Prof.ssa Antonella Naldini

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Introduction

Dendritic cells (DCs) are antigen-presenting cells and during their lifespan, DCs are exposed to different oxygen tensions as they patrol several tissue microenvironments, including thymus and lymph nodes, which are characterized by hypoxia (e.g., 2–10% oxygen tension).

Materials and Methods

Human monocyte-derived DCs were exposed to hypoxia (2% O₂) by using a hypoxic chamber. DCs survival, apoptosis and autophagy were then analyzed by Western blot, qRT-PCR, ELISA and confocal microscopy.

Results

Hypoxia differently affects DCs survival and, more interestingly, autophagy, depending upon their maturation levels.

Seminars attended (at University of Siena)

3-12-2018. The impact of hypoxia on inflammation, immunity and infection, Prof. C. Taylor UCD, Dublin

5-12-2018. Una risposta maladattativa allo stress del reticolo endoplasmatico produce disfunzione muscolare nel modello murino SEPN1 knock-out, Dott.ssa E. Zito, Istituto Mario Negri, Milano

10/11-12-2018. La ricerca delle informazioni su internet. Metodologie e strumenti, Dot.ssa Laura Bianciardi

24-1-2019 The power of partitioning QX200 ddPCR, Dott.ssa L. Rossini, Biorad

19-4-2019 Pathogenesis of juvenile idiopathic arthritis Prof. R. Cimaz Ospedale Pediatrico Meyer, Firenze

21-5-2019 Molecular Dynamics simulations as a tool to investigate the structure-function relation in molecular biology, Prof. S. Furini

Stay in other Italian laboratories: Dip.scienze biomediche e neuromotorie. Università di Bologna. 9-4-2019

Conferences: S. Monaci, I. Filippi, E. Morena, C. Aldinucci, G. Giuntini, S. Sozzani, F. Carraro, and A. Naldini Dendritic cell survival and migration under hypoxia: physiological hints for vaccine formulation and effectiveness. ADITEC Meeting, Siena 30/9 –2/10, 2019.

Publications: Guerrini, G., Durivault, J., Filippi, I., Criscuoli, M., Monaci, S., Pouyssegur, J., Naldini, A., Carraro, F. & Parks, S. K. (2019). Carbonic anhydrase XII expression is linked to suppression of Sonic hedgehog ligand expression in triple negative breast cancer cells. *Biochem Biophys Res Commun* 516:408-413
Criscuoli, M., Ulivieri, C., Filippi, I., Monaci, S., Guerrini, G., Crifò, B., De Tommaso, D., Pelicci, G., Baldari, T., Taylor, C., Carraro, F., & Naldini, A. (2019). The Shc protein Rai enhances T-cell survival under hypoxia". *J Cell Physiol* (Under revision)

Tutor

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Dottoranda

Dott.ssa Sara Monaci