UNIVERSITÀ DI TRENTO
Dipartimento di
Biologia Cellulare, Computazionale e Integrata - CIBIO

2023

10/10 at 11 a.m. | room A212 Povo1

CHROMATIN MODIFYING ENZYMES IN NEURODEVELOPMENTAL DISORDERS

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FACULTY OF HEALTH AND LIFE SCIENCE

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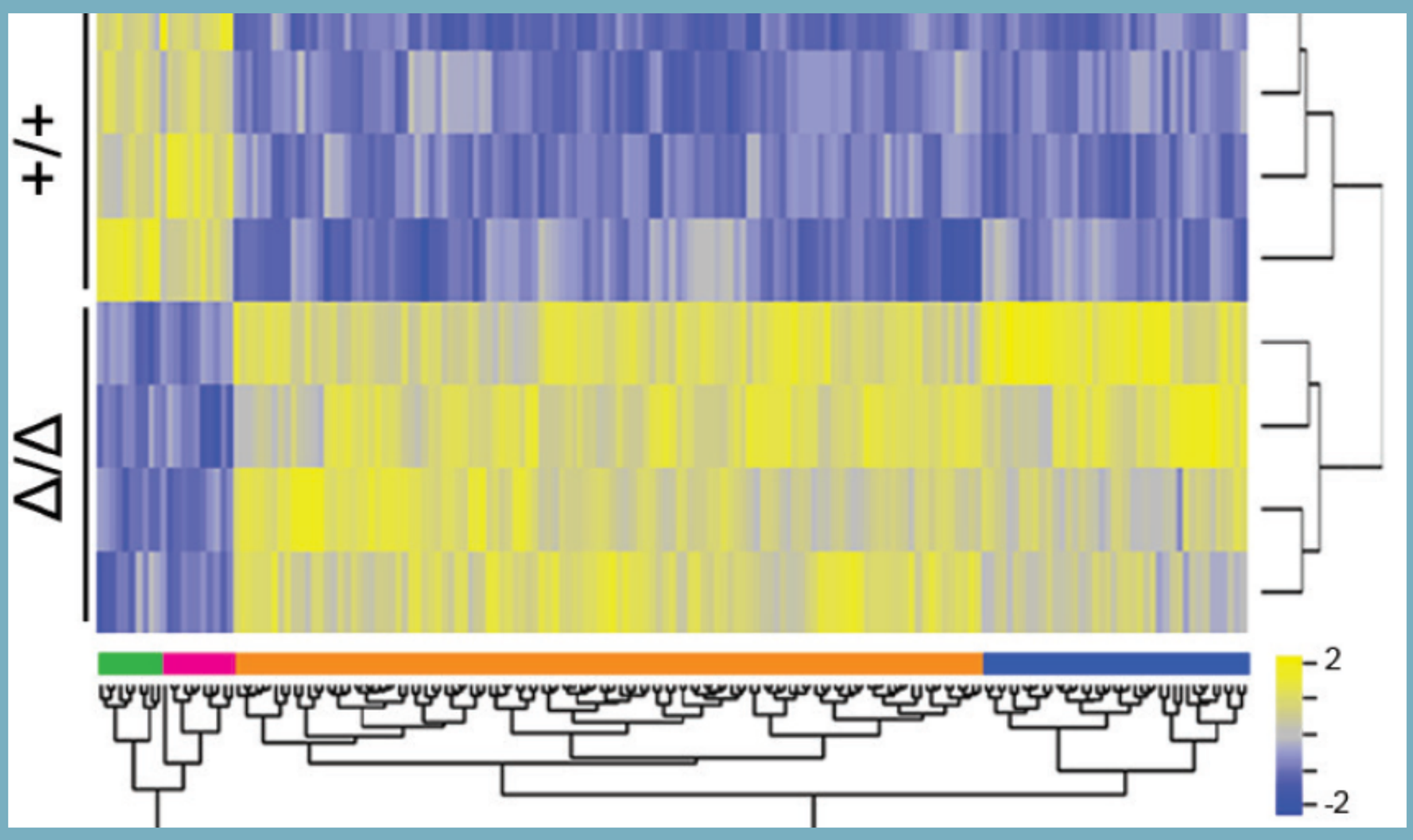

EPIGENETIC SEMINAR

Over the last decade, human genetic studies have found that genes encoding chromatin modifying and interacting proteins are frequent causes of neurodevelopmental disorders. In fact, >30% of high confidence autism and intellectual disability risk genes encode chromatin modifying factors.

Research in my group has focused on factors that interact with and regulate chromatin modified by a specific modification, methylation of lysine 4 on histone 3 (H3K4me). Loss of function mutations in genes encoding lysine methyltransferases (KMTs) responsible for H3K4 methylation, as well as ATP-dependent chromatin remodelling factors like CHD8 that are recruited to H3K4me chromatin are associated with a range of neurodevelopmental conditions. Intriguingly, mutations of H3K4me-specific lysine demethylases (KDMs) are also associated with autism and intellectual disability. As KDMs have multiple mechanistic functions, we recently examined neurodevelopmental phenotypes of mice that specifically lack KDM5B demethylase activity to determine the role of demethylation in brain development.

HOSTED BY MARTA BIAGIOLI

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