Since chemical modifications of DNA or histones are reversible processes, there is potentially a huge benefit in modulating such modifications for the treatment of human cancers using pharmacological drugs. To achieve such anti-cancer therapy, it is essential to decipher the molecular mechanisms underlying epigenetic and epigenomic perturbations in tumours. We will present our recent efforts, using our epigenomic platform EPICS (www.epics.ulb.be), to better understand and map epigenetic alterations in cancers, including DNA methylation and hydroxymethylation.

We will also discuss about our very recent work on an emerging realm of biological regulation, termed RNA epigenetics. We will present our ongoing attempts to decipher the roles of a novel RNA modification: RNA hydroxymethylation.

ABSTRACT

EPIGENETICS AND EPIGENOMICS IN HEALTH AND DISEASES

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