

Role of RNA modifications in gene regulation



SPEAKER
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ABSTRACT:

Chemical modifications of RNA are emerging as a new layer of regulatory control for gene expression in organisms, ranging from yeast to human and plants. Although discovered already in the 1970s, the field of epitranscriptome was dormant for over 40 years.

Now it is clear that they play vital roles in embryonic development, fertility and cellular differentiation in animals and plants. In fact, they touch every aspect of RNA biology that we know, but the molecular mechanisms and players involved are not known.

The m⁶A (N⁶-methyladenosine) is the most abundant internal RNA modification and its biology is orchestrated by a set of writers, readers and erasers, similar to the epigenetic regulation mediated by DNA and histone modifications. I will discuss recent research results from our lab on how m⁶A is used to regulate gene expression in response to environmental cues.

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