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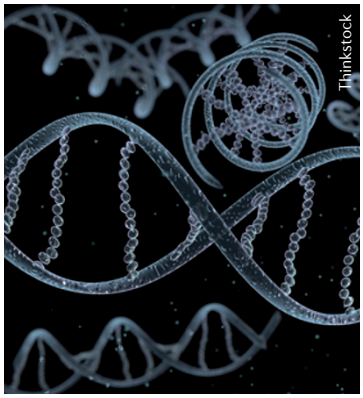
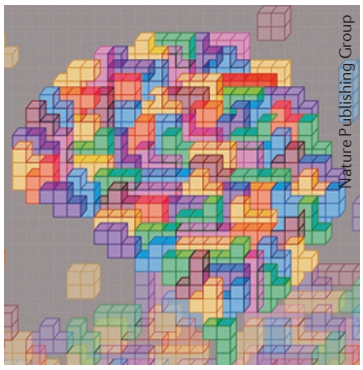


MicroRNAs in cancer p847



Glycine transporters as therapeutic targets p866

Dysregulated microRNAs (miRNAs) have been associated with multiple human diseases, and modulating miRNA activity has emerged as a potentially powerful therapeutic approach. Several miRNA-based drugs are now in clinical development and earlier this year the first cancer-targeted miRNA drug — MRX34, a liposome-based miR 34 mimic — entered Phase I trials in patients with advanced hepatocellular carcinoma. In their Review, Calin and colleagues focus on the role of miRNAs in cancer and assess therapeutic strategies and agents designed to modulate their function. Emerging insights into the importance of another class of non-coding RNAs — long non-coding RNAs — in cancer and their potential as novel anticancer targets are also discussed. Over the past decade, the metabolic rearrangements that accompany oncogenesis have been intensively investigated, generating significant interest in the potential of therapeutically targeting cancer metabolism. Kroemer and colleagues discuss the molecular mechanisms linking the principal metabolic changes of neoplastic cells to other aspects of malignant transformation, and present promising strategies and targets for the development of selective modulators of cancer cell metabolism. Finally, Harvey and Yee provide an overview of the functions of glycine in the central nervous system, where it acts as a classical inhibitory neurotransmitter as well as a modulator of neuronal excitation. They focus on the roles of the glycine transporters GlyT1 and GlyT2 in the regulation of extracellular glycine levels and their links to various central and peripheral nervous system disorders including schizophrenia, alcohol dependence, epilepsy and pain. The potential clinical benefits of rebalancing glycine homeostasis in specific regions of the nervous system and the latest advances in the development of glycine transporter inhibitors are discussed.

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