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Mammalian cells can release different types of extracellular vesicles (EVs), including exosomes, microvesicles, and apoptotic bodies. Accumulating evidence suggests that EVs play a role in cell-to-cell communication within the tumor microenvironment. EVs' components, such as proteins, noncoding RNAs [microRNAs (miRNAs), and long noncoding RNAs (lncRNAs)], messenger RNAs (mRNAs), DNA, and lipids, can mediate paracrine signaling in the tumor microenvironment. Recently, non-codingRNAs (ncRNAs) encapsulated in secreted EVs have been identified in the extracellular space. ncRNAs that participate in intercellular communication are released from most cells, often within EVs, and disseminate through the extracellular fluid to reach remote target cells, including tumor cells, whose phenotypes they can influence by regulating mRNA and protein expression either as tumor suppressors or as oncogenes, depending on their targets. I will discuss the roles of ncRNAs in intercellular communication, the biological function of extracellular ncRNAs, and their potential applications for diagnosis and therapeutics. I will also give examples of ncRNAs that behave as hormones.