Translation controlled mRNAs: New drug targets in infectious diseases?

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Recent data from a series of laboratories has pinpointed the relevant role of translation control on the regulation of gene expression. In particular, an analysis of T cell activation has led to demonstrate that during this physiological transition about 20% of the regulated mRNAs are controlled at the translation level. Furthermore, modulating the host mRNA translation is one of the mechanisms used by infectious agents to achieve a productive infection. In the present review, we summarize the current knowledge on the translation machinery, the translational control mechanisms during the immune response, as well as the mechanisms used by different pathogens to avoid, inhibit or postpone the host response; and suggest that the analysis on genome-wide screening of the host-pathogen interactions, identifying translationally regulated mRNAs, might unravel new drug targets in infectious diseases. © 2008 Bentham Science Publishers Ltd.