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Sommario/riassunto	<p>The main physiological actions of the biologically most active metabolite of vitamin D, 1α,25-dihydroxyvitamin D₃(1α,25(OH)₂D₃), are calcium and phosphorus uptake and transport and thereby controlling bone formation. Other emergent areas of 1α,25(OH)₂D₃ action are in the control of immune functions, cellular growth and differentiation. This fits both with the widespread expression of the VDR and the above described consequences of vitamin D deficiency. Transcriptome-wide analysis indicated that per cell type between 200 and 600 genes are primary targets of vitamin D. Since most of these genes respond to vitamin D in a cell-specific fashion, the total number of vitamin D targets in the human genome is far higher than 1,000. This is supported by the genome-wide view on VDR binding sites in human lymphocytes, monocytes, colon and hepatic cells. All genomic actions of 1α,25(OH)₂D₃ are mediated by the transcription factor vitamin D receptor (VDR) that has been the subject of intense study since the 1980's. Thus, vitamin D signaling primarily implies the molecular actions of the VDR. In this research topic, we present in 15 chapters different perspectives on the action of vitamin D and its receptor, such as the impact of the genomewide distribution of VDR binding loci, ii) the transcriptome- and proteome-wide effects of vitamin D, iii) the role of vitamin D in health, iv) tissue-specific functions of vitamin D and v) the involvement of vitamin D in different diseases, such as infections, autoimmune diseases, diabetes and</p>

different types of cancer.
