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Cloning and Transcriptional Activation of the Vitamin D Receptor (Amphibians)¹

of

Meral GÜZEY

Research Institute for Genetic Engineering and Biotechnology, MAM-TÜBİTAK, Gebze-Kocaeli-Turkey

Medical Sciences

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 [Authors](#)



medsci@tubitak.gov.tr

Abstract: The vitamin D receptor (VDR), a member of the nuclear receptor superfamily, is an integral part of the body's calcium regulatory system. Mammalian and avian VDR genes were isolated, sequenced and characterized. In this study we cloned the vitamin D receptor from amphibians. We received a cDNA library prepared from amphibian (frog) tissues and prepared a cDNA probe based on the avian VDR. We screened the library and located the positive clones. Complete structure of VDR gene has been compared with other species and concluded that it shares 79%, 73%, 73% and 75% identity at the aminoacid level with the chicken mouse, rat and human VDRs respectively. Comparison of different species rat, mouse, chicken, amphibians against to hVDR indicated that VDR is essentially conserved in DNA binding and hormone binding domains. These significant similarities demonstrates conservation of VDR receptor during evolution for these species.

Key Words: VDR, amphibians, cloning, evolution

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