

## Construction and expression of recombinant eukaryotic expression vector with rat brain-derived neurotrophic factor

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Brain-derived neurotrophic factor (BDNF) is of bio-macromolecules, playing an important role on the development and survival of various neurons, as well as the axonal regeneration. Its applications are limited, because of no crossing the blood-brain barrier (BBB). In this work, a eukaryotic expression vector was recombined with the BDNF gene, in order to observe the expression of BDNF in eukaryotic cells. The BDNF coding sequence of rat was amplified by reverse transcription-polymerase chainreaction (RT-PCR) from the total RNA of brain tissues, and then inserted into pcDNA3. And the recombinant plasmid pcDNA3/BDNF was transfected into the L929 lines. It was found that the recombinant plasmid can be digested into 783 bp and 5.2 kb fragments by the restriction enzyme digestion and the sequence of the 783 bp fragment was identical with the cDNA of rat BDNF in Gene Bank. In addition, the results of immunocytochemistry, western blot experiments can be considered as the reflection that BDNF can be expressed in eukaryotic cells properly. It will be great helpful for the further research based on the construction of recombinant plasmid, even to the understanding of mechanisms involving BDNF with the neuronal development or the regeneration of axon.

### Biography

Zhiwei Yang has completed his Ph.D at the age of 27 years from Northeast Forestry University. He is the group leader at the School of Basic Medical Sciences, Jiamusi University. His interesting is the mechanisms involving biological macromolecules with ligands, and has published more than 20 papers in reputed journals and serving as an editorial board member of repute.

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