The relationship between the L1 and L2 domains of the insulin and epidermal growth factor receptors and leucine-rich repeat modules

ABSTRACT

The leucine-rich repeat superfamily comprises right-handed beta helix proteins like pectate lyase and the L domains of members of the insulin receptor and epidermal growth factor receptor families, as indicated by multiple sequence alignments and comparisons between different 3D structures.

INTRODUCTION

Schizophrenia is a common mental illness that occurs frequently in adolescents and young adults, but the pathophysiology and etiology of schizophrenia are still unknown. While many research articles on the relationship between change in the dopamine system and schizophrenia have shown that this link is likely to be associated directly with schizophrenia, there is little direct evidence supporting the "dopamax hypothesis in schizophrenia". The development of new molecular biology and imaging techniques has made it possible to investigate schizophrenia more effectively than before, but these methods are still not universally accepted and often yield conflicting results. The "dopamine hypothesis" is based on the manipulation of the dopachymy system through pharmacological mechanisms that mimic or reduce the symptoms of schizophrenia. In addition to their own receptor, dopamine also affects the changes in the dopinamine system; therefore, for a complete description of these changes and their relationship with each other, studies are needed to explain what happens exactly in this system. Le Fur's discovery in the early 1980s revealed the presence of high affinity binding sites for [3H]spiroperidol in peripheral blood, but there has been a long-standing dispute as to whether these sites are specific or not. Recent molecular biology research has revealed the presence of D3, D4, and D5 dopamine receptors expressed in peripheral lymphocytes, indicating that the binding sites for [3H]spiroperidol in these tissues may be authentic dope receptor bases. However, clinical significance of these findings and whether or not these receptor(s) are central dopetamine-expressing cells is unclear. In order to determine if peripheral dopamine receptor mRNA is altered in schizophrenia statically or dynamically, this study was conducted to investigate whether these receptors may be useful as a potential peripheral marker for central schizophrenia.

CONCLUSION

By comparing the sequences of Drosophila and C. elegans with human genomes, we have identified 39 families of C2H2 ZNF genes. Of these, only 17 have been defined so far, and we estimate that 38 are definitive sets of orthologous genes, each deriving from a single gene in the common ancestor of these three organisms. Based on the present metazoan phylogeny, it is evident that each of these groups had a primitive presence in all triploblast bilaterian taxa, and they represent the minimum C2H2 ZNF complement in the bicaeolytic family.