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Agonistic Effect to the GABAA/benzodiazepine Receptor and Pharmacological Actions on Central Nerve System of the Extract of *Chunmajeongal-tang*, a Traditional Korean Medicinal Prescription

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This study was performed to investigate the agonistic activity of *Chunmajeongal-tang* (CJT) extract to the $GABA_A$/benzodiazepine receptor complex and also its pharmacological action on central nerve system, muscle relaxant effect and anxiolytic activity.

The results were summerized as follows :

1. CJT extract inhibited dose-dependently the binding of [^{3}H]Ro15-1788, an antagonist on GABA/benzodiazepine receptor complex, in rat cerebral cortices, showing 82.4±4.1% inhibition at a dose of 5.0 mg/kg.

2. CJT extract inhibited dose-dependently the binding of [^{3}H]flunitrazepam, an agonist on GABA/benzodiazepine receptor complex, in rat cerebral cortices, showing 5.6±1.2% inhibition.

3. CJT extract inhibited the binding of [^{3}H]flunitrazepam in the presence of GABA/NaCl with 13.2±0.4% inhibition, its inhibitory effect exhibited a positive GABA shift, supposingly activates a GABAergic neurotransmission.

4. CJT extract lengthened strongly the pentobarbital-induced sleeping time in a dose-dependent manner.

5. CJT extract exhibited muscle relaxation activity by horizontal wire test

with 26.7% at a dose of 1,000 mg/kg.

6. CJT extract revealed an anxiolytic effect by elevated plus maze test with 25.8% at a dose of 1,000 mg/kg.

Above results suggest that *Chunmajeongal-tang* extract agonistically activates $GABA_A$/benzodiazepine receptor complex and showed the effect on muscle relaxation and anxiolytic activity, so this prescription may be applicated as anticonvulsants and/or as sedatives.