Garlic (Allium sativum Linn.) has been used for food plant and medicinal products for years. It was documented in a Thai traditional medicine as a dermatologic agent, laxative drug and diuretics. Besides the application for emmenagogue, it is also claimed for the abortive effect. The most active substance in garlic which may be extracted by ether or alcohol is allicin, a sulfur containing structure. However, a little deal of information for the mechanism of action of allicin (garlic) has been postulated.

The purpose of this study is to investigate the mechanism of action of allicin on the contraction of rat uterine, via muscarinic receptor, beta receptor, alpha receptor or Ca-channel. Uterine horn used obtained from estrus phase of the estrous cycle of rat, 8-10 weeks of age. The study was performed in vitro. The contraction was recorded with a Dynograph in terms of amplitude, rate, rhythmicity and form.

The results in the present study appears that allicin significantly increases the amplitude of contraction ($P < 0.01$): the higher dose of allicin the more amplitude of contraction. Furthermore, atropine did not inhibit the action of allicin. ($P < 0.01$). Thus, it suggests that allicin dose not function via muscarinic receptor. Testing for beta adrenergic receptor by application of propranolol indicated that propranolol neither enhanced the effect of allicin nor possessed permissive actions ($P < 0.01$). It may be suggested that allicin does not act via the beta receptor. The regimen employed for phentolamine caused no inhibitory effect on allicin action by which indicating of no exertion on alpha receptor. The study of applying verapamil, a calcium blocker, allicin overcame the effect of verapamil in a dose-dependent manner ($P < 0.025$). The conclusion has been drawn that allicin may induce an opening of calcium channel and/or activate intracellular calcium mobilization.