

國立高雄大學統計學研究所
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姓名：黃建銓

題目：Testing for the Existence of a Desirable Dose Combination

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摘要：

We consider the problem of studying several dose combinations of two drugs for a therapeutic endpoint in a multilevel factorial clinical trial. Two test statistics are constructed to test whether there exists at least one dose combination that is more effective than its component doses. Their distributions involve nuisance parameters quantifying the mean differences among the doses of the two component drugs. It is shown that their power functions achieve maxima as all the nuisance parameters approach infinity in absolute value. The significance levels of the two tests are derived and two α -level tests are proposed. Tables are given to provide the α -level critical values for these tests and to gain insights into their power performances.

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