

Instructions for carrying out statistical procedures and tests using Minitab

These instructions are closely linked to the author's book:

Essential Statistics for the Pharmaceutical Sciences
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For all references to chapters or tables, see the above book.

**Using Minitab to add a Dunnett's test to a
one-way analysis of variance**

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Example: Table 13.1 Effect of catalyst on yield (Percentage of theoretical maximum)

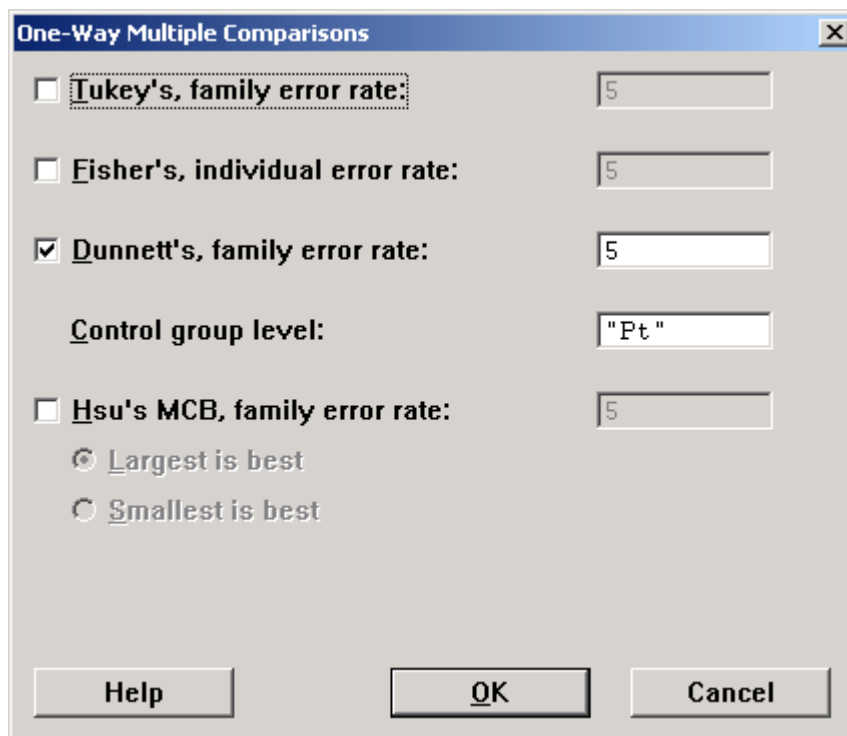
For the general theory of Dunnett's test, see Chapter 13.

Enter the data exactly as described for a [one-analysis of variance](#).

Follow the menus Stat / ANOVA / One-Way ...

Complete the boxes for Response and Factor as for [one-way analysis of variance](#).

Click on the 'Comparisons ...' button and select 'Dunnett's family error rate:'. You will then have to indicate one level of the experimental factor against which all other levels will be compared. In this example, platinum is chosen as the comparator, so in the box labelled 'Control group level:' enter "Pt". Notice that double quotation marks do have to be placed around the entry. The Multiple comparisons box will then look like this:



The screenshot shows the 'One-Way Multiple Comparisons' dialog box in Minitab. It has a title bar with a close button (X). The dialog contains several options, each with a checkbox and a text input field for the error rate. The 'Dunnett's, family error rate:' option is checked, and its error rate is set to 5. The 'Control group level:' is set to ""Pt"". The other options are unchecked: 'Tukey's, family error rate:' (5), 'Fisher's, individual error rate:' (5), and 'Hsu's MCB, family error rate:' (5). At the bottom, there are three radio buttons: 'Largest is best' (selected) and 'Smallest is best'. At the very bottom, there are three buttons: 'Help', 'OK', and 'Cancel'.

The output will then be as for the ANOVA alone, but with the following additional material (See next page):

Dunnett's comparisons with a control

Family error rate = 0.05

Individual error rate = 0.0153

Critical value = 2.65

Control = level (Pt) of Catalyst

Intervals for treatment mean minus control mean

Level	Lower	Center	Upper	
Ir	-0.4669	1.1800	2.8269	(-----*-----)
Pd	5.0331	6.6800	8.3269	(-----*-----)
Pd/Ir	1.3131	2.9600	4.6069	(-----*-----)
Rh	-1.2069	0.4400	2.0869	(-----*-----)

-----+-----+-----+-----+-----
0.0 2.5 5.0 7.5

See Chapter 13 for interpretation of the results.