

Population

One sample

Is the sample drawn from a normal distribution?

Y

N

One sample t-tests

Wilcoxon rank sum test

Two sample

Are the samples drawn from a normal distribution?

ANOVA

Y

Paired samples?

Y

N

Paired t-test

Equal variance?

Y

N

Unpaired t-test

Welch' corrected unpaired t-test

Paired samples?

Y

N

Wilcoxon matched pairs test

Mann-Whitney test

Three or more sample

Are the samples drawn from a normal distribution?

Y

N

Paired samples?

Y

N

Repeated measures one-way ANOVA

One-way ANOVA

Paired samples?

Y

N

Friedman test

Kruskal-Wallis test

Note: It is recommended to use a two-tailed test, unless you may have good reasons to pick a one-tailed test!