## Data van alle groepen samen

Conditie 1 = corticosteron

Conditie 2 = mifepreston

Conditie 3 = 17AAG

Conditie n = negatieve controle (geen ligand toegevoegd)

Conditie p = positieve controle (cortisol)

**Beschrijvende statistiek**

Hier is alleen de kolom percentage van belang.

Bij conditie zie je op hoeveel n (resultaten van hoeveel duo’s) de resultaten zijn gebaseerd.

df$conditie: 1

 dekglas conditie value percentage

 Min. : 1.00 1:16 Min. : 2.00 Min. :0.2000

 1st Qu.: 41.50 2: 0 1st Qu.: 7.50 1st Qu.:0.4391

 Median : 57.50 3: 0 Median :12.00 Median :0.5000

 Mean : 68.88 n: 0 Mean :12.81 Mean :0.5739

 3rd Qu.:124.25 p: 0 3rd Qu.:15.75 3rd Qu.:0.7098

 Max. :128.00 Max. :28.00 Max. :1.0000

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df$conditie: 2

 dekglas conditie value percentage

 Min. : 5.00 1: 0 Min. : 4.0 Min. :0.0000

 1st Qu.: 10.50 2:23 1st Qu.:10.5 1st Qu.:0.6408

 Median : 64.00 3: 0 Median :20.0 Median :0.8571

 Mean : 64.78 n: 0 Mean :22.3 Mean :0.7485

 3rd Qu.: 99.00 p: 0 3rd Qu.:30.5 3rd Qu.:0.9365

 Max. :134.00 Max. :61.0 Max. :1.0000

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df$conditie: 3

 dekglas conditie value percentage

 Min. : 14.00 1: 0 Min. : 2.00 Min. :0.0000

 1st Qu.: 44.50 2: 0 1st Qu.: 6.50 1st Qu.:0.0000

 Median : 75.00 3:23 Median : 12.00 Median :0.0500

 Mean : 81.43 n: 0 Mean : 20.96 Mean :0.1474

 3rd Qu.:136.50 p: 0 3rd Qu.: 24.50 3rd Qu.:0.2417

 Max. :142.00 Max. :102.00 Max. :0.5000

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df$conditie: n

 dekglas conditie value percentage

 Min. : 20.0 1: 0 Min. : 1.00 Min. :0.0000

 1st Qu.: 34.0 2: 0 1st Qu.: 9.00 1st Qu.:0.0000

 Median : 90.0 3: 0 Median :14.00 Median :0.0600

 Mean : 92.2 n:49 Mean :17.88 Mean :0.1668

 3rd Qu.:146.0 p: 0 3rd Qu.:20.00 3rd Qu.:0.1923

 Max. :158.0 Max. :84.00 Max. :1.0000

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df$conditie: p

 dekglas conditie value percentage

 Min. : 35.00 1: 0 Min. : 2.00 Min. :0.2500

 1st Qu.: 49.75 2: 0 1st Qu.: 7.25 1st Qu.:0.8295

 Median :110.50 3: 0 Median :12.00 Median :0.9875

 Mean :107.60 n: 0 Mean :17.78 Mean :0.8928

 3rd Qu.:161.50 p:58 3rd Qu.:20.75 3rd Qu.:1.0000

 Max. :176.00 Max. :77.00 Max. :1.0000

**Assumpties testen**

df$conditie: 1

 Shapiro-Wilk normality test

data: dd[x, ]

W = 0.92427, p-value = 0.1976

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df$conditie: 2

 Shapiro-Wilk normality test

data: dd[x, ]

W = 0.82581, p-value = 0.001022

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df$conditie: 3

 Shapiro-Wilk normality test

data: dd[x, ]

W = 0.76493, p-value = 0.0001107

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df$conditie: n

 Shapiro-Wilk normality test

data: dd[x, ]

W = 0.66884, p-value = 3.039e-09

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df$conditie: p

 Shapiro-Wilk normality test

data: dd[x, ]

W = 0.68768, p-value = 8.014e-10

H0 = de data is normaal verdeeld

HA = de data is niet normaal verdeeld

Niet alle p-waarden zijn boven de 0,05. Dus niet alle condities zijn normaal verdeeld 🡪 non-parametrisch testen.

(Levene-test doet het niet bij mij…)

**Hypothese toetsen (Kruskal-Wallis en post-hoc)**

Conditie 1 = cortisosteron

Kruskal-Wallis test for condition 1 and controls

 Kruskal-Wallis rank sum test

data: x$percentage by x$conditie

Kruskal-Wallis chi-squared = 77.58, df = 2, p-value < 2.2e-16

P<0,05 dus het percentage translocatie in de positieve controle, negatieve controle en corticosteron is niet gelijk.

Condition 1 and controls

 Pairwise comparisons using Tukey and Kramer (Nemenyi) test

 with Tukey-Dist approximation for independent samples

data: x$percentage and x$conditie

 1 n

n 0.0076 -

p 0.0096 2.5e-14

P value adjustment method: none

Het percentage translocatie bij corticosteron verschilt wel van de positieve controle (p=0.0076).

Het percentage translocatie bij corticosteron verschilt niet van de negatieve controle (p=0.0096).

Conditie 2 = mifepreston

Kruskal-Wallis test for condition 2 and controls

 Kruskal-Wallis rank sum test

data: x$percentage by x$conditie

Kruskal-Wallis chi-squared = 74.58, df = 2, p-value < 2.2e-16

P<0,05 dus het percentage translocatie in de positieve controle, negatieve controle en mifepreston is niet gelijk.

Condition 2 and controls

 Pairwise comparisons using Tukey and Kramer (Nemenyi) test

 with Tukey-Dist approximation for independent samples

data: x$percentage and x$conditie

 2 n

n 2.8e-05 -

p 0.083 2.9e-14

P value adjustment method: none

Het percentage translocatie bij mifepreston verschilt niet van de positieve controle (p=0.083).

Het percentage translocatie bij mifepreston verschilt wel van de negatieve controle (p=2.8\*10^-5).

Conditie 3 = 17AAG

Kruskal-Wallis test for condition 3 and controls

 Kruskal-Wallis rank sum test

data: x$percentage by x$conditie

Kruskal-Wallis chi-squared = 83.478, df = 2, p-value < 2.2e-16

P<0,05 dus het percentage translocatie in de positieve controle, negatieve controle en 17-AAG is niet gelijk.

Condition 3 and controls

 Pairwise comparisons using Tukey and Kramer (Nemenyi) test

 with Tukey-Dist approximation for independent samples

data: x$percentage and x$conditie

 3 n

n 0.97 -

p 1.0e-10 3.8e-14

P value adjustment method: none

Het percentage translocatie bij 17-AAG verschilt wel van de positieve controle (p=1\*10^-10).

Het percentage translocatie bij 17-AAG verschilt niet van de negatieve controle (p=0.97).

Alle groepen testen

Kruskall-Wallis test for all conditions

 Kruskal-Wallis rank sum test

data: df$percentage by df$conditie

Kruskal-Wallis chi-squared = 107.29, df = 4, p-value < 2.2e-16

P is kleiner dan 0,05. Dus niet alle groepen zijn gelijk.

Post-hoc

All conditions

 Pairwise comparisons using Tukey and Kramer (Nemenyi) test

 with Tukey-Dist approximation for independent samples

data: df$percentage and df$conditie

 1 2 3 n

2 0.786 - - -

3 0.023 5.1e-05 - -

n 0.015 4.6e-06 0.999 -

p 0.023 0.305 1.6e-12 3.3e-14

P value adjustment method: none

**Plotjes**



