Age-Associated Biomarker Study TCGA Lung Cancer Males Fisher's Exact Tests

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Table 1: ER binding and age associated gene counts for TCGA Lung cancer data, Males, FDR 0.05

| ER binding | Age association Age associated | Not age associated | Total |
|-------------------------------|--------------------------------|--------------------|--------|
| ER binding | | | |
| N | 25 | 1653 | 1678 |
| Row(%) | 1.49% | 98.51% | 8.85% |
| $\operatorname{Column}(\%)$ | 7.94% | 8.87% | |
| Not ER binding | | | |
| N | 290 | 16982 | 17272 |
| $\operatorname{Row}(\%)$ | 1.68% | 98.32% | 91.15% |
| $\widehat{\text{Column}}(\%)$ | 92.06% | 91.13% | |
| Total | 315 | 18635 | 18950 |
| | 1.66% | 98.34% | |

```
##
## Fisher's Exact Test for Count Data
##
## data: tab
## p-value = 0.618
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
## 0.561958 1.339017
## sample estimates:
## odds ratio
## 0.8856367
```

Table 2: ER binding and age associated gene counts for TCGA Lung cancer data, Males, FDR 0.01

| ER binding | Age association Age associated | Not age associated | Total |
|-----------------------------|--------------------------------|--------------------|--------|
| ER binding | <u> </u> | | |
| N | 2 | 1676 | 1678 |
| Row(%) | 0.12% | 99.88% | 8.85% |
| Column(%) | 8.33% | 8.86% | |
| Not ER binding | | | |
| N | 22 | 17250 | 17272 |
| Row(%) | 0.13% | 99.87% | 91.15% |
| $\operatorname{Column}(\%)$ | 91.67% | 91.14% | |
| Total | 24 | 18926 | 18950 |
| | 0.13% | 99.87% | |

```
##
## Fisher's Exact Test for Count Data
##
## data: tab
## p-value = 1
## alternative hypothesis: true odds ratio is not equal to 1
## 95 percent confidence interval:
## 0.106565 3.811747
## sample estimates:
## odds ratio
## 0.9356699
```

Table 3: NKI ER binding and age associated gene counts for TCGA Lung cancer data, Males, FDR 0.05

| ER binding | Age association Age associated | Not age associated | Total |
|-------------------------------|--------------------------------|--------------------|--------|
| Tier 1 | | | |
| N | 68 | 2807 | 2875 |
| Row(%) | 2.37% | 97.63% | 15.17% |
| $\widehat{\text{Column}}(\%)$ | 21.59% | 15.06% | |
| Tier 2 Only | | | |
| N | 60 | 3145 | 3205 |
| Row(%) | 1.87% | 98.13% | 16.91% |
| $\widehat{\text{Column}}(\%)$ | 19.05% | 16.88% | |
| Not ER binding | | | |
| N | 187 | 12683 | 12870 |
| Row(%) | 1.45% | 98.55% | 67.92% |
| $\operatorname{Column}(\%)$ | 59.37% | 68.06% | |
| Total | 315 | 18635 | 18950 |
| | 1.66% | 98.34% | |

##
Fisher's Exact Test for Count Data
##
data: tab
p-value = 0.001937

alternative hypothesis: two.sided

Table 4: NKI ER binding and age associated gene counts for TCGA Lung cancer data, Males, FDR 0.01

| | Age association | | |
|-----------------------------|-----------------|--------------------|--------|
| ER binding | Age associated | Not age associated | Total |
| Tier 1 | | | |
| N | 5 | 2870 | 2875 |
| Row(%) | 0.17% | 99.83% | 15.17% |
| $\operatorname{Column}(\%)$ | 20.83% | 15.16% | |
| Tier 2 Only | | | |
| N | 5 | 3200 | 3205 |
| Row(%) | 0.16% | 99.84% | 16.91% |
| $\operatorname{Column}(\%)$ | 20.83% | 16.91% | |

| ER binding | Age associated | Not age associated | Total |
|-------------------------------|----------------|--------------------|--------|
| Not ER binding | | | |
| $\mathbf N$ | 14 | 12856 | 12870 |
| Row(%) | 0.11% | 99.89% | 67.92% |
| $\widehat{\text{Column}}(\%)$ | 58.33% | 67.93% | |
| Total | 24 | 18926 | 18950 |
| | 0.13% | 99.87% | |

##

Fisher's Exact Test for Count Data

##

data: tab ## p-value = 0.495

alternative hypothesis: two.sided