Supplementary file 1: Raw data from correlation assays

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | |  | **Acrosome Reaction** | **IVF** | | | | | **Multinucleation** | | | | |
| **Male** | | | **Total sperm** | **n= 1,000** | **COCs** | | **ZP-free** | | | **Control** | | **SPICER (with sperm)** | | **Fold increase** |
| **#** | **Age (months)** | **Genetic background** | **x10^6** | **% of acrosome reaction** | **Fertilized eggs/total** | **% of ferilization** | **Fertilized eggs/total (polyspermy)** | **% of fertilization** | **# of sperm/egg** | **Count** | **%** | **Count** | **%** |
| 1 | 2,97 | Hybrid FVB/129sv/CF1 | 15,2 | 24,8 | 18/18 | 100 | 16/18 | 88,89 | 0,89 | 80/925 | 8,65 | 299/920 | 32,50 | 3,76 |
| 2 | 4,37 | Hybrid B6D2 | 5,2 | 20,5 | 0/14 | 0 | 12/20 | 60 | 0,6 | 203/968 | 20,97 | 2,42 |
| 3 | 3,37 | Hybrid B6D2 | 6,5 | 17,8 | 12/15 | 80 | 12/12 (2 w/2 sperm) | 100 | 1,17 | 58/838 | 6,92 | 268/992 | 27,02 | 3,90 |
| 4 | 5,00 | Hybrid B6D2 | 8,3 | 38,1 | 0/12 | 0 | 0/14 | 0 | 0 | 100/842 | 11,88 | 1,72 |
| 5 | 3,47 | Hybrid FVB/129sv/CF1 | 14,4 | 21,8 | 22/22 | 100 | 19/19 (4 w/2 sperm and 3 w/3 sperm) | 100 | 1,53 | 72/1066 | 6,75 | 264/984 | 26,83 | 3,97 |
| 6 | 3,63 | Hybrid B6D2 | 7,5 | 16,8 | 14/19 | 73,7 | 16/16 (6 w/2 sperm) | 100 | 1,38 | 154/828 | 18,60 | 2,76 |
| 7 | 4,17 | Hybrid FVB/129sv/CF1 | 10,1 | 36,6 | 13/13 | 100 | 19/21 (6 w/2 sperm and 2 w/3 sperm) | 90,48 | 1,38 | 36/917 | 3,93 | 202/968 | 20,87 | 5,31 |
| 8 | 3,50 | Hybrid B6D2 | 5,7 | 18,5 | 0/12 | 0 | 17/25 (3 w/2 sperm) | 68 | 0,8 | 197/845 | 12,66 | 3,22 |
| 9 | 2,47 | Hybrid B6D2 | 10,2 | 44 | 18/18 | 100 | 13/13 (3 w/2) | 100 | 1,23 | 48/952 | 4,70 | 206/894 | 23,04 | 4,90 |
| 10 | 2,47 | Hybrid B6D2 | 3,29 | 45,5 | 0/14 | 0 | 1/11 | 9,1 | 0,09 | 154/958 | 16,08 | 3,42 |