**S7 Table. Analysis of γ-rays induced intra-chromosomal exchanges detected by the mBAND technique on chromosome 5. Raw data used for the generation of histograms presented in Fig. 5 D and E are shown below:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **0Gy** | **2Gy** | **4Gy** | **6Gy** |
| **Cells with two normal chromosome 5** | **99** | **69** | **43** | **28** |
| **One of the homologs with one break** | **0** | **9** | **15** | **18** |
|  band p14-15 |   | 2 (fr) |   | 1(fr) |
|  band p13 |   |   |   |   |
|  band p11.2-p12 |   | 3 (fr) | 2 (fr) | 5(fr) 1(p arm deleted) |
|  band q12 |   |   |   | 1(fr) 1(p arm deleted) |
|  band q13 |   |   |   |   |
|  band q14 |   |   | 5 (fr) | 2(fr) |
|  band q15-q22 |   | 2 (fr) |   |   |
|  band q23 |   | 1 (fr) | 2 (fr) | 1(fr) |
|  band q31 |   |   | 1 (fr) | 1(fr) |
|  band q32 |   |   |   |   |
|  band q33 |   | 1 (fr) | 4 (fr) | 3(fr) |
|  band q35 |   |   | 1 (fr) | 2(fr) |
| **One of the homologs with two breaks** | **0** | **1** | **2** | **4** |
|  band p14-15 |   |   |   |   |
|  band p13 |   |   |   |   |
|  band p11.2-p12 |   | 1 (trans) | 1 (fr) | 1(fr)\* 1(fr)' 1(fr)" |
|  band q12 |   |   |   |   |
|  band q13 |   |   |   |   |
|  band q14 |   |   | 1 (fr) |   |
|  band q15-q22 |   |   |   | 1(fr)~ |
|  band q23 |   |   |   |   |
|  band q31 |   |   |   | 1(fr)' |
|  band q32 |   |   | 1 (fr) |   |
|  band q33 |   | 1(fr) |   | 1(fr)" 1(fr)~ |
|  band q35 |   |   | 1 (fr) | 1(fr)\* |
| **One of the homologs with four breaks** | **0** | **0** | **0** | **1** |
|  band p14-15 |   |   |   |   |
|  band p13 |   |   |   | 1(fr) |
|  band p11.2-p12 |   |   |   |   |
|  band q12 |   |   |   |   |
|  band q13 |   |   |   |   |
|  band q14 |   |   |   |   |
|  band q15-q22 |   |   |   |   |
|  band q23 |   |   |   |   |
|  band q31 |   |   |   | 1(fr) |
|  band q32 |   |   |   |   |
|  band q33 |   |   |   | 1(fr) |
|  band q35 |   |   |   | 1(fr) |
| **Both homologs with one break** | **0** | **0** | **1** | **5** |
|  band p14-15 |   |   |   | 1(fr) |
|  band p13 |   |   |   |  1(fr) |
|  band p11.2-p12 |   |   | 1(fr) | 1(fr) 1(fr) |
|  band q12 |   |   |   | 1(fr) |
|  band q13 |   |   |   |   |
|  band q14 |   |   |   | 1(fr) |
|  band q15-q22 |   |   |   | 1(fr) |
|  band q23 |   |   | 1(fr) | 1(fr) |
|  band q31 |   |   |   |   |
|  band q32 |   |   |   |   |
|  band q33 |   |   |   | 1(fr) |
|  band q35 |   |   |   | 1(fr) |
| **One homolog with one and the other with two breaks** | **0** | **0** | **1** | **2** |
|  band p14-15 |   |   |   | 1(fr)\* 1(fr)' |
|  band p13 |   |   |   |   |
|  band p11.2-p12 |   |   |   | 1(trans)\* 1(fr)' |
|  band q12 |   |   |   |   |
|  band q13 |   |   |   |   |
|  band q14 |   |   |   | 1(fr)\* 1(fr)' |
|  band q15-q22 |   |   | 1(fr) |   |
|  band q23 |   |   | 1(fr)/1(fr)  |   |
|  band q31 |   |   |   |   |
|  band q32 |   |   |   |   |
|  band q33 |   |   |   |   |
|  band q35 |   |   |   |   |
| **extra chromosome material present** | **0** | **0** | **1** | **0** |
|  band p11.2-p12 |   |   | 1(fr) |   |
| **Total cells scored** | **100** | **80** | **65** | **60** |
| **Total breaks detected** | **0** | **10** | **24** | **45** |
| **Translocations** | **0** | **1** | **3** | **1** |
| **Total aberrations**  | **0** | **11** | **27** | **46** |
| **Aberration Frequency/Cell** | **0** | **0.13** | **0.41** | **0.76** |

 **\*, ~, ' and "- Breaks observed at different locations on the same homologous chromosome 5.**