ESRF	**Experiment title:** **Fractionated irradiation of mouse melanomas by MRT better tumor control due to repetitive vascular damage**	**Experiment number**: **MD-1181**
Beamline: ID17	**Date of experiment**: from:10.10.2016 to: 31.10.2016	**Date of report**: 28.02.20
Shifts: 12	**Local contact(s)**: Elke BRÄUER-KRISCH	*Received at ESRF:*

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Report:

Methods and irradiations:

B16-F10 melanoma cells (American Type Culture Collection) were implanted in C57BL/6J mice ears. MRT was performed in the ID17 of th ESRF. A multislit collimator (50 μm slits, spaced by 200 μm from their centers) was used to spatially fractionate the synchrotron beam. For all irradiations, the entrance dose was 400Gy, with a dose rate of approximately 14kGy/s. Mice from the MRT single group were irradiated once (at 11th day after tumor implantation, D0), while mice from MRT double treatment group received two MRT doses (at 11th (D0) and 21st day (D10) after tumor implantation).

Results:

1) MRT double treatment significantly enhanced MRT-induced melanoma regression
2) MRT-double treatment enhanced production of Natural Killer cells- and Cytotoxic T Lymphocites-attracting chemokines and suppressed secretion of immunosuppressive cell-recruiting chemokines in melanoma-bearing mice.