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## Quantitative evaluation of 52 kD Ro/SS-A intracellular distribution in keratinocytes exposed to UVB radiation

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### Keywords

autoantibodies, green fluorescent protein, Ro 52 kD/SS-A, histogram

### Abstract

The intracellular location of the 52 kD Ro/SS-A autoantigen and its reaction upon stimuli are constantly subject to debate. One question still not resolved concerns the behavior of this protein following UVB irradiation. In order to monitor 52kD Ro/SS-A in time, the peptide was tagged with green fluorescence protein and over-expressed in keratinocytes. Evolution after UVB irradiation was observed using confocal fluorescence microscopy. By accepting a model that assumes the proportionality of pixel intensity to local GFP density, the distribution of the imaged protein in its relative density space can be calculated. Data analysis shows that the initial protein punctate structures located in the cytoplasm tend to disintegrate in a time-dependent manner. This agrees qualitatively with experimental evidence stating that the efficiency of immunological labeling is altered after UVB irradiation. Such dispersion must also co-exist with eventual enhanced exposure of 52 kD Ro/SS-A to the cell surface, which has been pointed out in the past by immunostaining experiments.

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