

Medical/biological Study (experimental study)**Microwave radiation-induced calcium ion efflux from human neuroblastoma cells in culture.**

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Aim of study (according to author)

To investigate whether the *in vitro* exposure to 915 MHz microwaves irradiation exhibits effects on the calcium flux (influx/efflux) in human brain tissue.

Endpoint

- cell function: calcium flux (influx/efflux)

Exposure

General category: microwaves

Field characteristics	Parameters
field 1: 915 MHz amplitude modulation exposure duration: continuous for 30 min	SAR: 5 mW/g max value (0.01, 0.05, 0.075, 0.1, 0.5, 0.75, 1.0, 1.5, 2.0, or 5.0 mW/g)
field 2: 915 MHz amplitude modulation exposure duration: continuous for 30 min	SAR: 0.05 mW/g
field 3: 915 MHz continuous wave (CW) exposure duration: continuous for 30 min	SAR: 0.05 mW/g SAR: 1 mW/g

Exposed system:

intact cell/cell culture (in vitro)
IMR 32 (human neuroblastoma cells)

Methods

Endpoint/Measurement parameters/Methodology

- cell function: calcium flux (influx/efflux) ($^{45}\text{Ca}^{2+}$ radioisotope uptake, scintillation counter)

investigated material: intact cell/cell culture (in vitro), cell supernatant

time of investigation: before, during and after exposure

Main outcome of study (according to author)

A significant increase in the calcium efflux occurred at two specific absorption rate values: 0.05 and 1 mW/g. The increased calcium efflux at the specific absorption rate of 0.05 mW/g was dependent on the presence of amplitude modulation at 16 Hz but at the higher value of 1 mW/g specific absorption rate it was not observed.

(Study character: medical/biological study, experimental study, full/main study)

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Screen view