



# Phototoxicity

## ***In vitro* 3T3 NRU Phototoxicity test for Skin Photo-Irritation (OECD 432)**

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JRF Global's *in vitro* research team helps you with rapid tailor-made *in vitro* phototoxicity assays for cosmetic products and ingredients.

Phototoxicity is a possible side effect of certain topical applications and other chemical products. Application or ingestion of such photoactive substances results in skin irritation when the skin is exposed to light, usually in reaction to UV light.

JRF offers the 3T3 Neutral Red Uptake (NRU) test, the standard *in vitro* phototoxicity test. This cytotoxic test uses a Neutral Red, a cationic dye, to assess any light-induced damage caused by the test item using murine fibroblasts as a matrix. To determine viability, the murine 3T3 fibroblast cells are exposed to both the test item and UVA light, and the NRU is then compared with the NRU of another set of fibroblast cells that have been exposed only to the test item.

Neutral Red, being mildly cationic, are taken up and trapped in lysosomes within the cell. Phototoxic products cause the lysosomes to rupture, releasing the Neutral Red, measurement of which is used to assess the test item's phototoxicity.