

# Scientists see benefits of nanocerium

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A U.S. study suggests cerium oxide -- used in polishing glass and in car exhaust systems -- might be used to treat various eye disorders and other diseases.

James McGinnis and colleagues at the University of Oklahoma injected cerium oxide nanoparticles into the eyes of rats and discovered the substance can protect the retina against exposure to damaging levels of illumination. If injected after exposure, the nanoparticles assisted recovery.

The researchers say the nanoparticles neutralize the effects of compounds known as reactive oxygen intermediates, or ROIs, although the mechanism underlying the process remains unclear.

The study's results indicate cerium oxide nanoparticles may be effective in inhibiting cell death caused by ROIs, which is thought to be involved in various medical conditions affecting the eye, such as macular degeneration and retinitis pigmentosa.

The researchers speculate the particles might be effective in treating a range of other degenerative diseases involving ROIs, such as diabetes, Alzheimer's disease and strokes.

Study results appear in the journal *Nature Nanotechnology*.

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