**LIGHT REGULATED Expressions of Retinal Gens**


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**INTRODUCTION**

Intense or long-term exposure to light has been related to degenerative changes in the mammalian retina, and seems to be involved in the pathophysiology of age-dependent macular degeneration and retinitis pigmentosa. However, it still remains unclear which part of the visual spectrum is responsible for retinal damage although several evidences suggest that "blue light" is the responsible for these nocuous effects.

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**METHODS**

The expression of several genes was investigated using RT-PCR using a conventional protocol and the primers listed in the table. Relative expression of mRNAs for pro-apoptotic (caspase-1, bax, bad) and anti-apoptotic (bcl-2, bcl-XL) genes, c-fos and c-jun were determined in each experimental group.

Also, the influence of light in the expression of some calcium-binding proteins (calbindin D28k, S100a6, and calretinin), matrix-metalloproteinases (MMP-2, MMP-3, and MMP-9) and the neurotrophic receptor TrkA were investigated.

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**RESULTS**

The expression of caspase-1, bax and bcl-2 was not affected by light exposure. Bad was up regulated in all the experimental groups especially after blue light exposure although the yellow intracocular lens were able to partially prevent this overexpression. Also, yellow intracocular lenses up regulated the expression of bcl-XL.

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**REFERENCES**

Centro de Mínima Incisión Jesús Usón, Cáceres, Spain

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