

The anti-inflammatory mechanism of 635 nm light-emitting-diode irradiation compared with existing COX inhibitors.

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RESULTS:

Results showed that 635 nm irradiation and existing COX inhibitors inhibit expression of COX and PGE(2) release. Unlike indomethacin and ibuprofen, 635 nm irradiation leads to a decrease of ROS levels and mRNA expression of cytosolic phospholipase A(2) (cPLA(2)) and secretory phospholipase A(2) (sPLA(2)).

CONCLUSION:

Taken together, 635 nm irradiation, unlike indomethacin and ibuprofen, can directly dissociate the ROS. This inhibits cPLA(2), sPLA(2), and COX expression, and results in the inhibition of PGE(2) release. Thus, we suggest that 635 nm irradiation inhibits PGE(2) synthesis like COX inhibitor and appears to be useful as an anti-inflammatory tool.

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