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Curcumin Analogues as Lead for PDE5 Inhibitors

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Erectile Dysfunction (ED) is a common public health problem affecting millions of men worldwide. Phosphodiesterase 5 (PDE5) inhibitors can be used for the treatment of ED. However, most of PDE5 inhibitors show some undesirable side effects. The aim of the study is to search for new PDE5 inhibitors from synthesis and natural sources. In our preliminary screening, we found that curcumin, a major component in *Curcuma longa* L., together with its analogues showed inhibition effect on PDE5. Interestingly, some analogs showed no effect on PDE6 which is the isozyme that can be found in rod and cone cells within the eye. The IC₅₀ value of curcumin analogue, ASKI087 against PDE5 was in a micromolar range. The curcuminoid structure could be a promising lead for PDE5 inhibitors.

Keywords: Erectile dysfunction; Phosphodiesterase 5 inhibitors; Curcumin analogues.