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"Preparation of Testosterone using microbial metabolite of Cholesterol "

"Naghbi F, Tabatabai Yazdi M, Shah Hosseini S "



### Abstract:

Natural sterols are potential raw materials for the preparation of pharmacologically active steroid products. This paper details preparation of testosterone, one of the steroidal hormones, through microbial metabolism of cholesterol followed by chemical reduction. The side chain of cholesterol was selectively cleaved by *Mycobacterium smegmatis* PTCC 1307, and then selective reduction of resulting 17-keton group of androst-4-ene-3, 17-dione (AD), the main product of microbial transformation, with sodium borohydride at -10°C gave testosterone in high yeild (90%). Assignment of structures were made by IR, NMR, Mass, and UV spectroscopic data.

### Keywords:

[Mycobacterium smegmatis](#) , [Sodium borohydride](#)

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