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Mutation breeding of high 4-androstene-3,17-dione-producing *Mycobacterium neoaurum* ZADF-4 by atmospheric and room temperature plasma treatment

Key words: *Mycobacterium neoaurum*, Atmospheric and room temperature plasma (ARTP), Mutation breeding, 4-Androstene-3,17-dione (AD), 1,4-Androstadiene-3,17-dione (ADD)

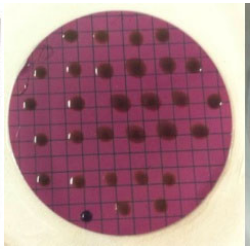
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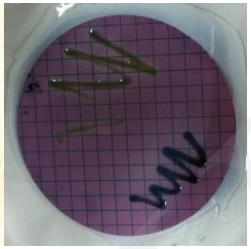
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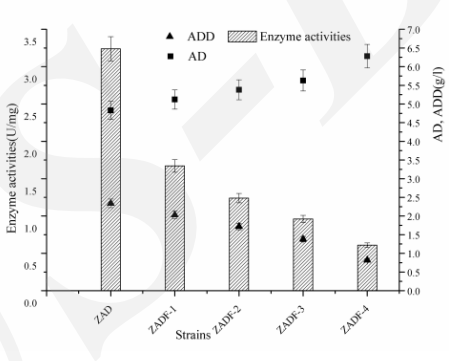
Research Summary

This paper mainly focused on increasing the production ratio of AD in the mixture of AD/ADD in *Mycobacterium neoaurum* mutant through the deficiency of key enzyme, 3-ketosteroid-Δ1-dehydrogenases(KSDD)

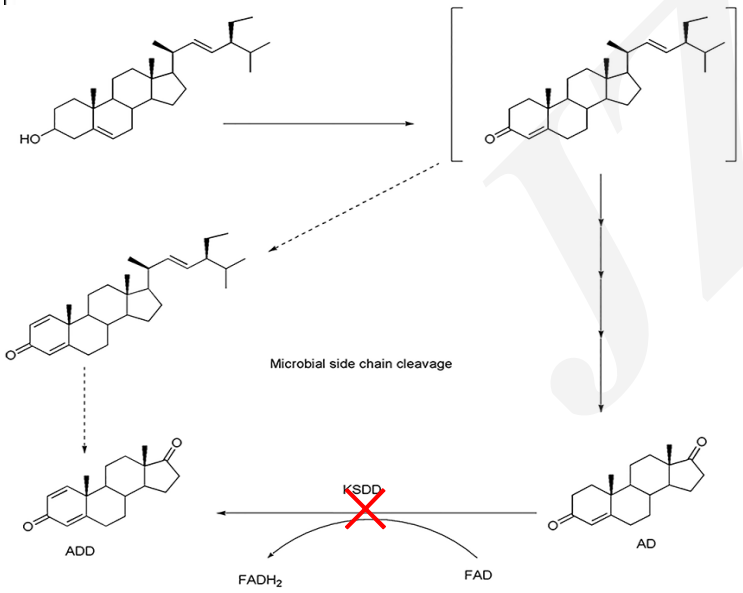












.Mutagenesis with the ARTP biological breeding system
.Mutant selection
. Enzyme activity assay of KSDD and product analysis
. Sequencing and comparision of the mutant *ksdd* gene with original strain

Innovation points

This work provides a promising candidate of *M. neoaurum* for industrial AD production as well as an extension of the H+ dependent dehydrogenase deficient screening method.

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