

COSMETIC

Tyrosinase inhibition assay

Tyrosinase is an oxidoreductase that participates in the biosynthesis of melanin, a pigment found in hair, eyes, skin. Inhibition of tyrosinase has been a long-time target in the skin health research and cosmetics because of its role in browning reactions in skin pigmentation. Skin whitening products utilize natural or synthetic tyrosinase inhibitors in order to lighten the skin color^{1,2,3}.

Test system: Tyrosinase from mushroom.

Main Read-outs: Absorbance in 510 nm.

Experimental number: Three per group in triplicate.

Reference Item: Kojic acid (30 µg/mL).

Validation Data

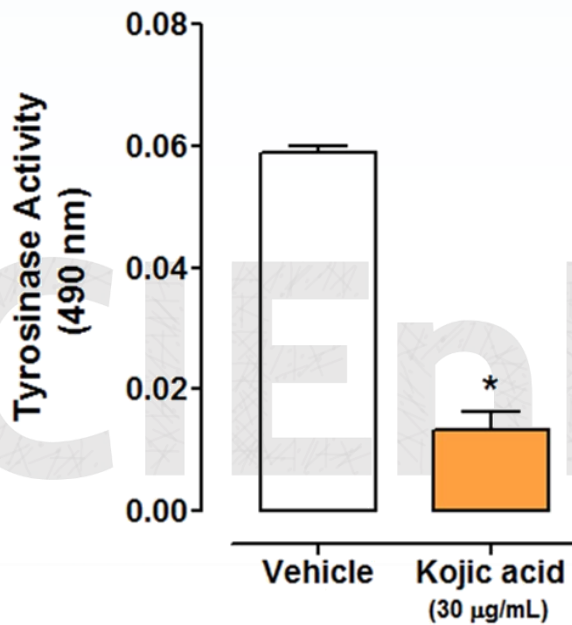


Figure: Tyrosinase inhibition of kojic acid. The figure represents the inhibition activity compared with control group. Each column represents the mean ± SEM of 3 per group in triplicate. Statistical analyses used was t-test. *P < 0.05, versus vehicle group.

All in vitro experiments are performed in triplicate wells for each condition and repeated at least three times.

References:

¹An Updated Review of Tyrosinase Inhibitors. Chang, TS. Int J Mol Sci. 2009 Jun; 10(6): 2440–2475.

²Inhibition of tyrosinase activity and melanine pigmentation by 2-hydroxytyrosol. Uchidaa,R; Ishikawaa,S and Tomoda, H. Acta Pharmaceutica Sinica B. Volume 4, Issue 2, April 2014, Pages 141–145.

³No JK, Soung DY, Kim YJ, Shim KH, Jun YS, Rhee SH, Yokozawa T, Chung HY. Inhibition of tyrosinase by green tea components. Life Sci: 65(21): 241-6, 1999.

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