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ACB Lemon Peel Extract G
Efficacy Data

Code: 20364G
INCI Name: Glycerin & Water & Lactobacillus/ Lemon Peel Ferment Extract
CAS #: 56-81-5 & 7732-18-5 & 84929-31-7
EINECS #: 200-289-5 & 231-791-2 & 284-515-8

Type of Study	Results
Tyrosinase Inhibition Assay	Based on the results of the tyrosinase inhibition assay conducted using 2.0% ACB Lemon Peel Extract G, the product is capable of inhibiting tyrosinase 34.0% better than hydroquinone when measured with a Shimadzu UV-1601 UV/Vis Spectrophotometer.

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ACB Lemon Peel Extract G Tyrosinase Inhibition Study

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Abstract

The purpose of this study was to determine the effects of **ACB Lemon Peel Extract G** on tyrosinase inhibition. Tyrosinase is an enzyme that plays a major role in melanogenesis, or the synthesis and expression of melanin within the skin. Studies were conducted on isolated mushroom tyrosinase utilizing UV-Visible Spectrophotometry. The results indicate that 2% **ACB Lemon Peel Extract PBF** is capable of inhibiting the activity of tyrosinase by 99.8%.

Materials and Methods

Mushroom tyrosinase was isolated, and the below *in vitro* test was conducted using a control (unloaded vehicle), 0.50%, 1%, and 2% ACB Lemon Peel Extract G. Inhibition was measured after 30 minutes using a UV/Vis Spectrophotometer (Shimadzu UV-1601). The specifications for the use of the spectrophotometer are the following:

Temperature	25°C
pH	6.5
Absorbance	280 nm
Path Length	1 cm

A reaction mixture was prepared by pipetting the following reagents into a clean container:

1. Deionized water 9.00 ml
2. **Reagent A:** 10.00 ml of potassium phosphate buffer 50 mM
3. **Reagent B:** 10.00 ml of Tyrosine solution 1 mM

The solution was mixed and the pH was adjusted to 6.5 using 1 M HCl. The mixture was then pipetted into quartz cuvettes. This was equilibrated to 25°C. A_{280} was monitored until constant. The reagents were added as follows:

	Test	**Blank**
Reaction Mixture	2.90	2.90 ml
Reagent A	-	0.10 ml
Reagent B	0.10	-

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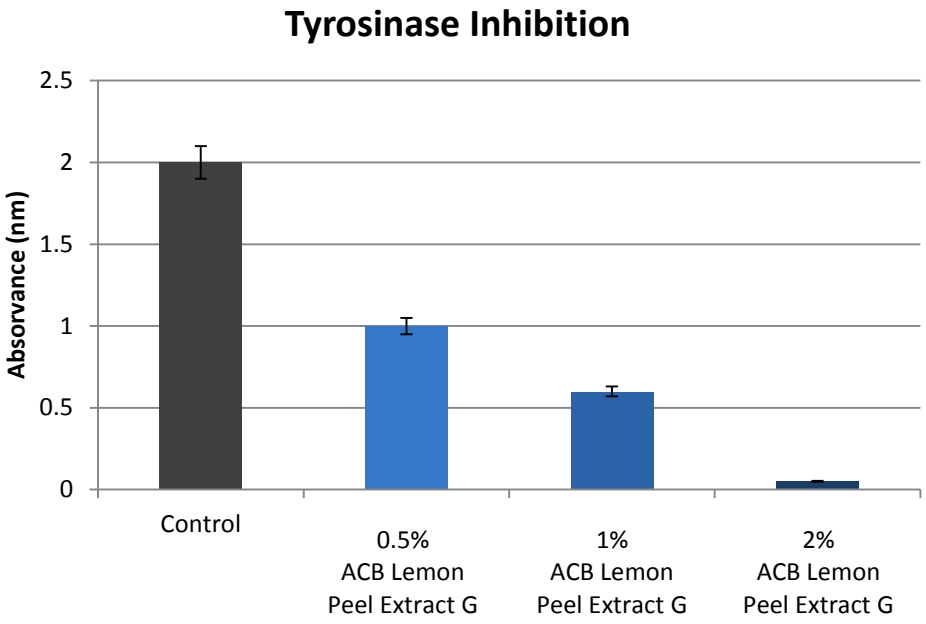
Immediately after this the cuvette was inverted to mix and the increase in A280 was recorded for approximately 10 minutes. The ΔA_{280}/min was obtained using the maximum linear rate for both the Test and Blank.

Results



Discussion

Based on the results, **ACB Lemon Peel Extract G** is capable of inhibiting tyrosinase activity by 50% when used at a concentration of 0.5%. A reduction of 70% was achieved at a concentration of 1% and 99.8% inhibition when used at 2%. For this reason, **ACB Lemon Peel Extract G** is ideal for lightening the skin to promote even and healthier looking skin.