

Aegle marmelos Fruit Beverage Inhibits Acetylcholinesterase Activity

| Research Simplified | Faculty of Pharmacy | Srinakharinwirot University|

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Acetylcholinesterase Inhibitor Activities of
Aegle marmelos Fruit Beverage. Thai
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Bael fruits
Boiled in water



Spray-dried



Test for
acetylcholinesterase
inhibitor activity (in
vitro study using
colorimetric method)



Matoom fruit beverage inhibits
acetylcholinesterase activity

What Is Acetylcholinesterase?

- Acetylcholinesterase is an enzyme in our bodies that breaks down a neurotransmitter called **acetylcholine**.
- Acetylcholine is essential for communication between nerve cells.

Why Investigate *Aegle marmelos*?

- *Aegle marmelos*, also known as bael or **matoom**, is a fruit used in traditional Thai herbal remedies.
- Scientists wanted to see if this fruit could inhibit acetylcholinesterase activity.

How Did They Test It?

- They made a beverage from dried matoom fruits by boiling them in water.
- Then, they turned the beverage into a powdered form using a spray drying process.
- They compared its effects to a positive control, **galantamine**, which is known to inhibit acetylcholinesterase.

What Were the Results?

- The content of a compound called **marmelosin** in the beverage ranged from **600 to 1000 µg** per **100 mg** of powder.
- The beverage showed **half-maximal inhibitory concentration (IC₅₀)** values of **125 - 136 µg/ml**.
- Both marmelosin and galantamine inhibited acetylcholinesterase activity.

What Does This Mean?

- Matoom fruit beverage can **inhibit acetylcholinesterase**.
- This inhibition could be beneficial, especially in conditions like **Alzheimer's disease**, where acetylcholine breakdown is a problem.

Remember, this study provides promising insights, but more research is needed to fully understand how *Aegle marmelos* can benefit our health!