**Kaempferia parviflora (KP)**

KP is one of the most popular herb medicines in Thailand and Laos.

**Family**: Zingiberaceae (Ginger)

**Scientific name**: Kaempferia parviflora Wall. Ex Baker

**Country of origin**: Thailand, Laos

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**Used as food**
- In Thai, it has been used as tea or food for maintaining health and vitality.
- In Japan, it has been used as a supplement.

**Physiological functions**
- Reduces blood glucose levels
- Improves blood flow

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**Specification of SIRTMAX® (KP extract)**

5.7-dimethoxyflavone > 4%
Total polymethoxyflavonoids (5 compounds) > 15%

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**SIRT1 activation effect** (Nakata et al., 2014)

SIRTMAX® activates SIRT1 5-fold higher than resveratrol.

- 2 μg/mL
- 10 μg/mL
- 20 μg/mL
- 100 μg/mL

**Visceral fat reduction**

The accumulation of visceral fat was suppressed by SIRTMAX®.

- **Method**: free feeding (diet containing 1% or 3% SIRTMAX®)
- **Test animal**: spontaneously obesity type 2 diabetic mouse

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**Metabolic syndrome improvement** (Shimada et al., 2015)

SIRTMAX® shows efficacy on anti-hyperglycemia effect, anti-obesity effect and anti-glycation effect in a dose of 100 mg/day for human.

- **Blood glucose**
  - Changes in values (mg/dL)
  - Before (0 week)
  - After (17 weeks)

- **Body weight**
  - Changes in values (kg)
  - Before (0 week)
  - After (17 weeks)

- **AGEs**
  - Changes in values (μg/mL)
  - Before (0 week)
  - After (17 weeks)
Anti-glycation activity (Nakata et al., 2014)

SIRTMAX® shows the inhibitory activity for the AGEs formation, which is from 5 to 7.5-fold higher than Aminoguanidine®.

<table>
<thead>
<tr>
<th>Inhibition rate (%) at 10 μg/mL</th>
<th>IC₅₀ (μg/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIRTMAX®*</td>
<td>32</td>
</tr>
<tr>
<td>KPMF-8</td>
<td>98</td>
</tr>
<tr>
<td>KPMF-10</td>
<td>65</td>
</tr>
<tr>
<td>Aminoguanidine (&gt;99%)</td>
<td>—</td>
</tr>
</tbody>
</table>

* Aminoguanidine: positive control (AGEs formation inhibitor, medicines for diabetes complications in USA)
* unpublished data

Safety data

<table>
<thead>
<tr>
<th>Test</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>LD₅₀ ≥ 2000 mg/kg</td>
</tr>
<tr>
<td>Ames test</td>
<td>Negative</td>
</tr>
<tr>
<td>Human clinical trial</td>
<td>No adverse effects were observed (100 mg/day for 7 weeks)</td>
</tr>
</tbody>
</table>

Patent intellectual property

- US patent: US 9,745,279 B2
- Japan patent: JP 6417630
- JIHFS GMP for health food raw materials certification
- Kosher certification

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