

SIRTMAX[®]

Kaempferia parviflora Wall. Ex Baker



tokiwa
PHYTOCHEMICAL

Kaempferia parviflora (KP)



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

Family : *Zingiberaceae (Ginger)*
 Scientific name : *Kaempferia parviflora* Wall.Ex Baker
 Country of origin : Thailand, Laos

Used as food

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

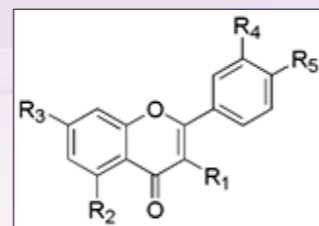
Physiological functions

- ▶ Reduces blood glucose levels
- ▶ Improves blood flow

Specification of SIRTMAX[®] (KP extract)

5,7-dimethoxyflavone > 4%

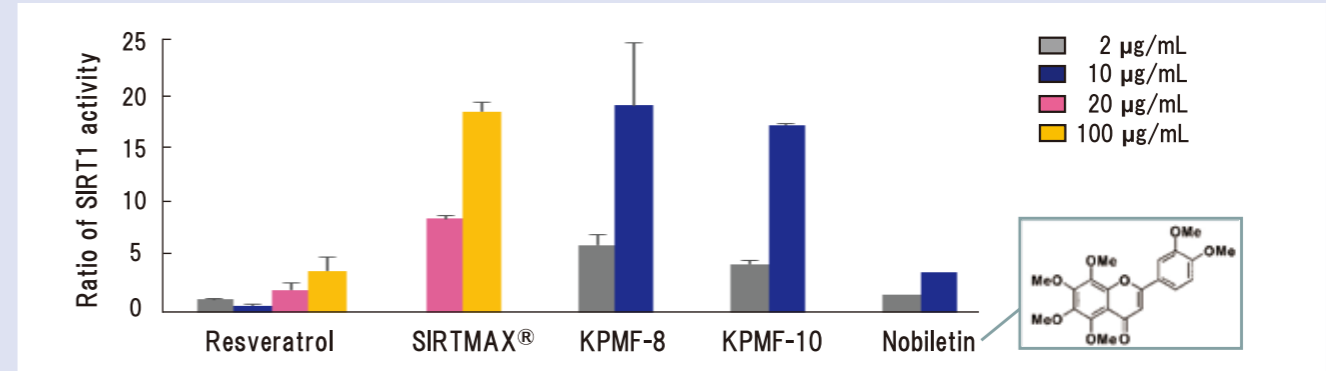
Total polymethoxyflavonoids (5 compounds) > 15%



	3,5,7,3',4'- pentamethoxyflavone (KPMF-8)	5,7- dimethoxyflavone (KPMF-5)	5,7,4'- trimethoxyflavone (KPMF-10)	3,5,7- trimethoxyflavone (KPMF-2)	3,5,7,4'- tetramethoxyflavone (KPMF-3)
R ₁	OCH ₃	H	H	OCH ₃	OCH ₃
R ₂	OCH ₃	OCH ₃	OCH ₃	OCH ₃	OCH ₃
R ₃	OCH ₃	OCH ₃	OCH ₃	OCH ₃	OCH ₃
R ₄	OCH ₃	H	H	H	H
R ₅	OCH ₃	H	OCH ₃	H	OCH ₃

SIRT1 activation effect (Nakata et al., 2014)

SIRTMAX[®] activates SIRT1 **5-fold higher** than resveratrol.



Visceral fat reduction*

The accumulation of visceral fat was **suppressed** by SIRTMAX[®].

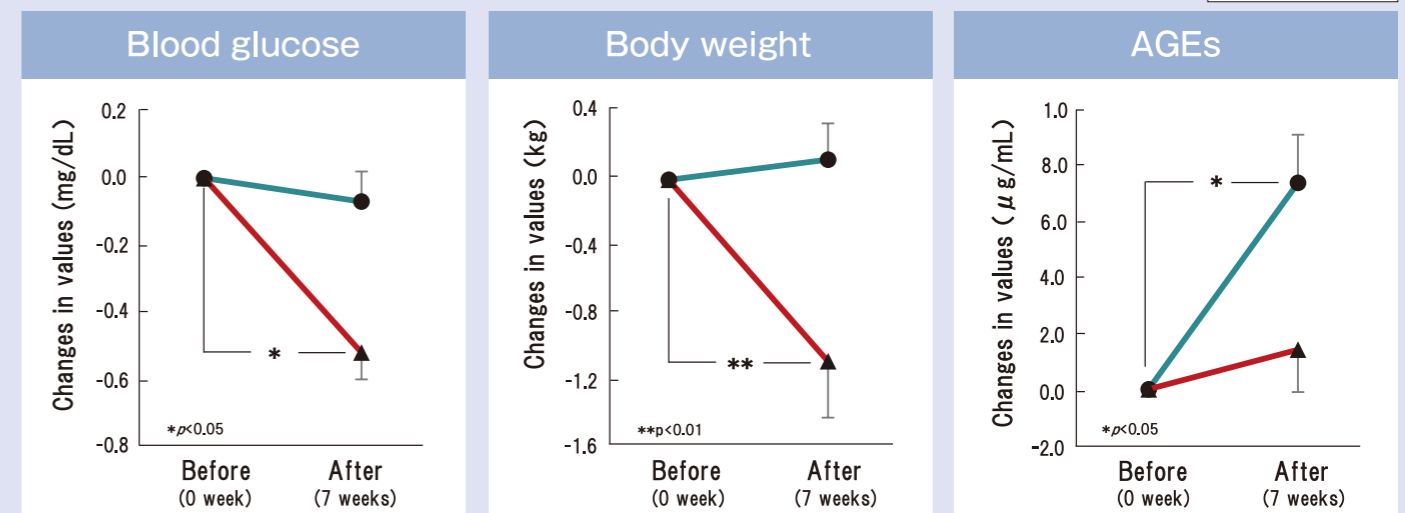
Method : free feeding (bait containing 1% or 3% SIRTMAX[®])
 Test animal : spontaneously obesity type 2 diabetic mouse



* unpublished data

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.



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*.

	Inhibition rate (%) at 10 μ g/mL	IC ₅₀ (μ g/mL)
SIRTMAX[®]*	32	24
KPMF-8	98	5.6
KPMF-10	65	8.7
Aminoguanidine (>99%)	–	138~183

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* unpublished data

Safety data

Test	Results
Acute toxicity	LD ₅₀ \geq 2000 mg/kg
Ames test	Negative
Human clinical trial	No adverse effects were observed (100 mg/day for 7 weeks)

Patent intellectual property

- US patent : US 9,745,279 B2
- Japan patent : JP 6417630
- Reference : Nakata et al., (2014). *Nat Prod Commun.* 9, 1291-4.
Shimada et al., (2015). *Jpn Pharmacol Ther.* 43, 997-1005.
- JIHFS GMP for health food raw materials certification
- Kosher certification

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