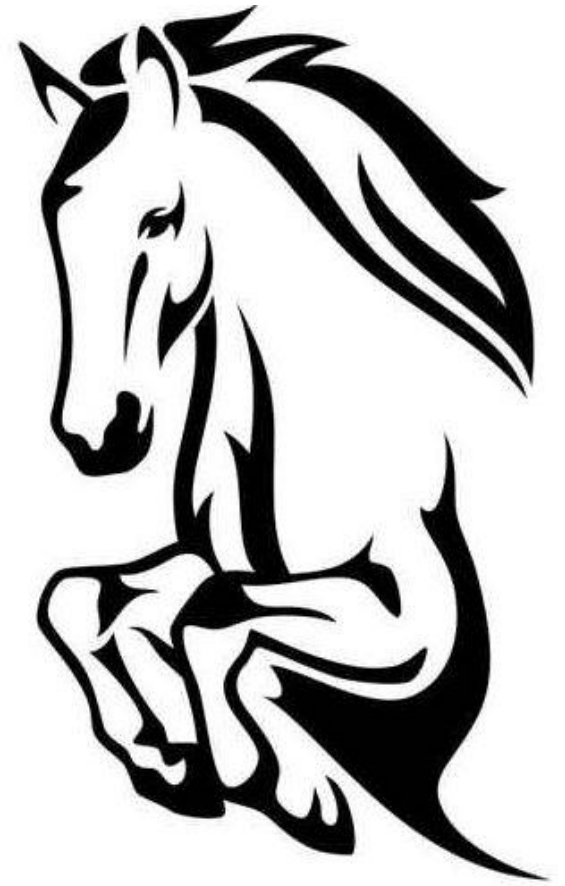


# HORSE OIL

(馬油)





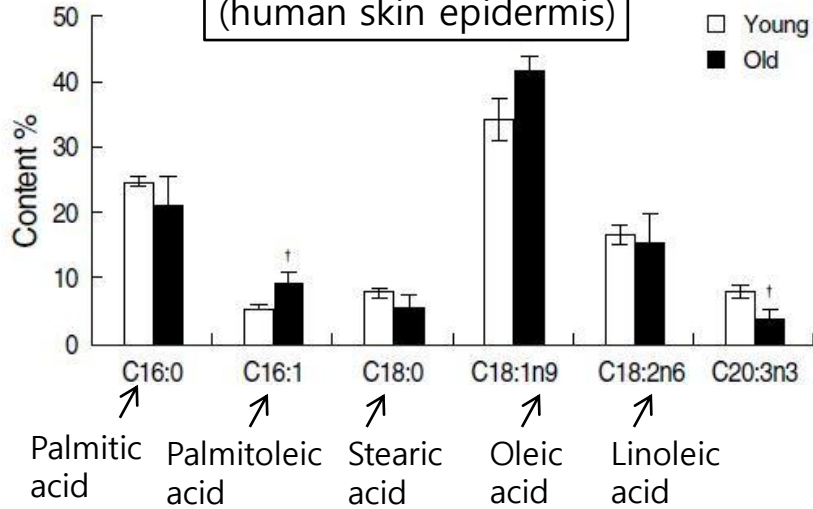
Horse oil, also known as horse fat oil, is obtained from a horse fat.

Used as folk medicine in various Asian countries i.e Korea, Japan, China and Mongol;

- ✓ In Chinese traditional medicine, horse oil was consumed to cure burn and wound healing.
- ✓ The entertainers used horse oil to help recover their rough skin due to lots of heavy make-up (本草綱目, Ben Cao Gang Mu)

\* Effect of horse oil on DNCB-induced contact hypersensitivity in Balb/c mice, Young Sun Lee et al., *Kor. J. Herbology*, 2013

Fatty acids composition  
(human skin epidermis)



\* Skin aging and photoaging alter fatty acids composition, 11,14,17-eicosatrienoic acid, in the epidermis of human skin, *J Korean Med Sci* 2010;

Fatty acids composition  
(human subcutaneous site)

TABLE I  
Fatty acid composition of human adipose tissue from three sites\*

Fatty acid	Perirenal	Abdominal	Buttock
Myristic (14:0)	2.58 ± 0.82 <sup>a</sup>	2.43 ± 0.75 <sup>a</sup>	2.16 ± 0.73 <sup>b</sup>
Palmitic (16:0)	23.76 ± 2.40 <sup>a</sup>	23.13 ± 2.11 <sup>b</sup>	21.79 ± 2.51 <sup>c</sup>
Palmitoleic (16:1)	4.90 ± 2.05 <sup>c</sup>	5.61 ± 2.16 <sup>b</sup>	7.22 ± 2.68 <sup>a</sup>
Stearic (18:0)	6.54 ± 1.54 <sup>a</sup>	5.28 ± 1.73 <sup>b</sup>	4.00 ± 1.60 <sup>c</sup>
Oleic (18:1)	45.59 ± 2.92 <sup>c</sup>	46.97 ± 2.75 <sup>b</sup>	48.26 ± 2.83 <sup>a</sup>
Linoleic (18:2)	15.36 ± 2.93 <sup>a</sup>	15.32 ± 2.85 <sup>a</sup>	15.37 ± 2.82 <sup>a</sup>
Linolenic (18:3)	0.62 ± 0.20 <sup>a</sup>	0.61 ± 0.19 <sup>a</sup>	0.61 ± 0.20 <sup>a</sup>

\* Values are mean mass percent of total TG fatty acids ± SD, n = 143. Means with different superscripts in the same row are significantly different from each other by ANOVA (p < 0.001).

\* Fatty acid composition of adipose tissue in humans: Difference between subcutaneous sites, *American journal of clinical nutrition*, Sep. 1989

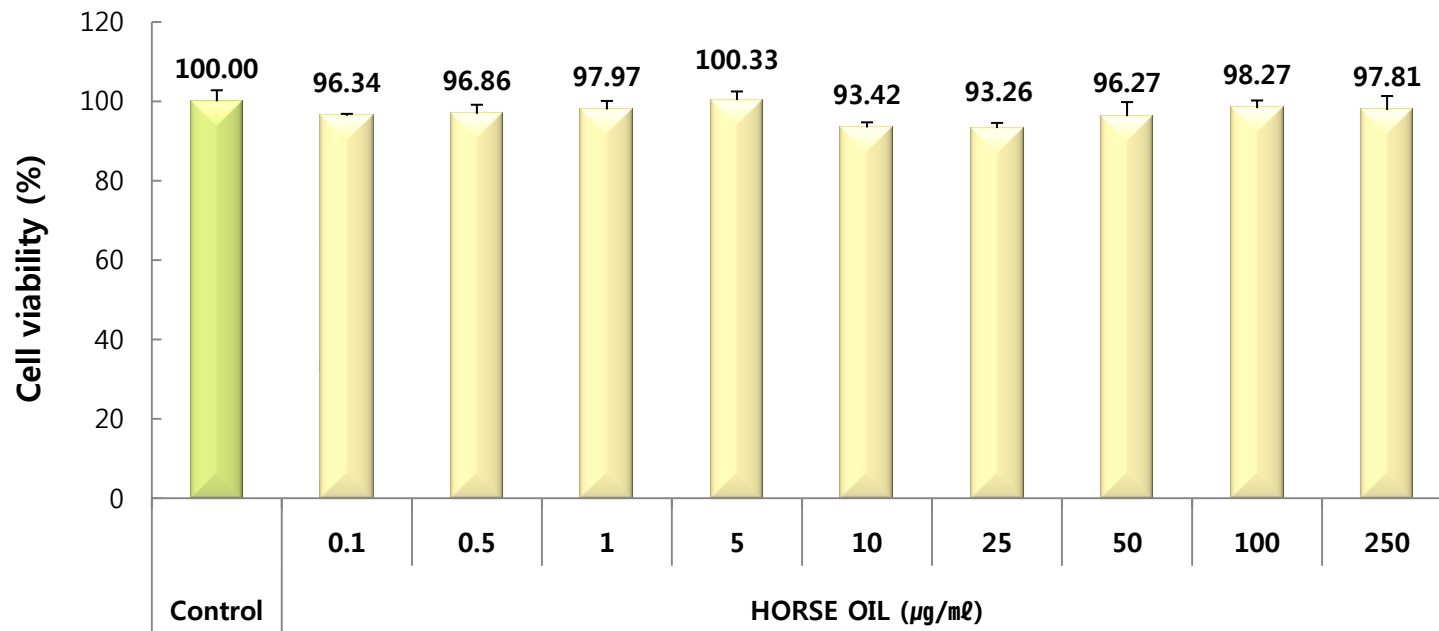
Horse oil

Composition	Oleic acid	Palmitic acid	Linoleic acid	Stearic acid	Palmitoleic acid	Vaccenic acid	Myristic acid
Rate (%)	41	28	12	7	5	3	2

The composition of fatty acids of horse oil is close to the human skin epidermis and subcutaneous site → high affinity and absorption to the human skin

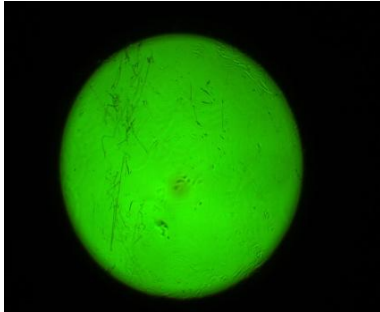
\* Effect of horse oil on DNCB-induced contact hypersensitivity in Balb/c mice, Young Sun Lee et al., *Kor. J. Herbology*, 2013

# Cell Cytotoxicity (by MTT, on Human fibroblast)



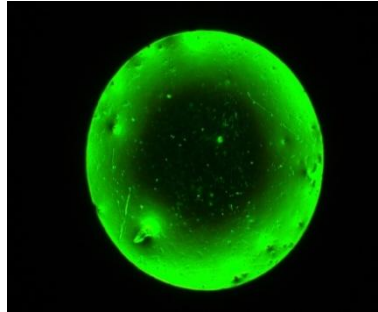
# Cell migration (by Oris™ cell migration assay kit)

Day 0

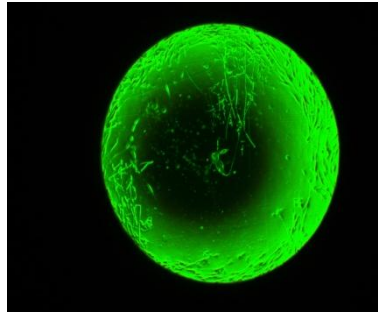


Control

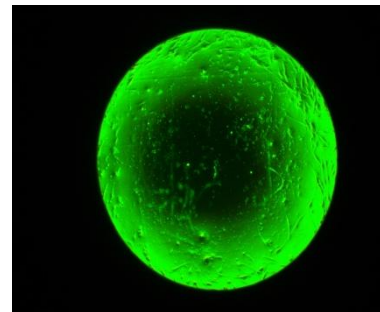
Day 6



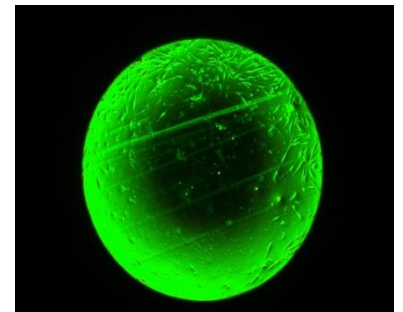
Control



Horse Oil 25ppm

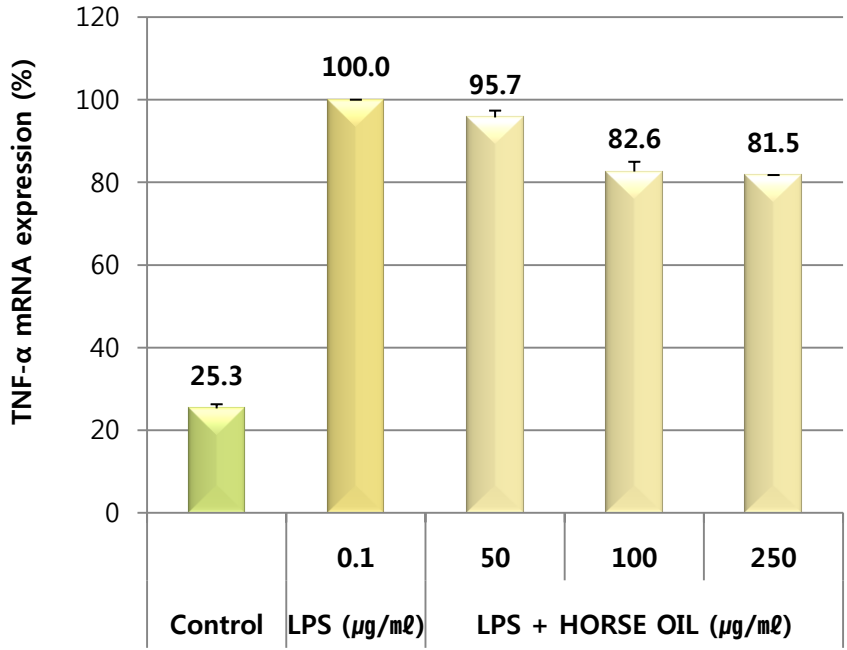
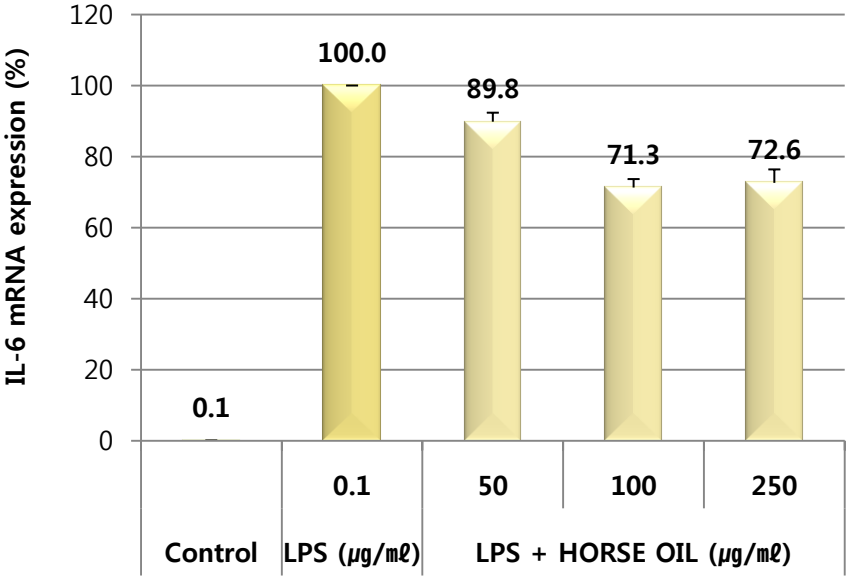


Horse Oil 50ppm

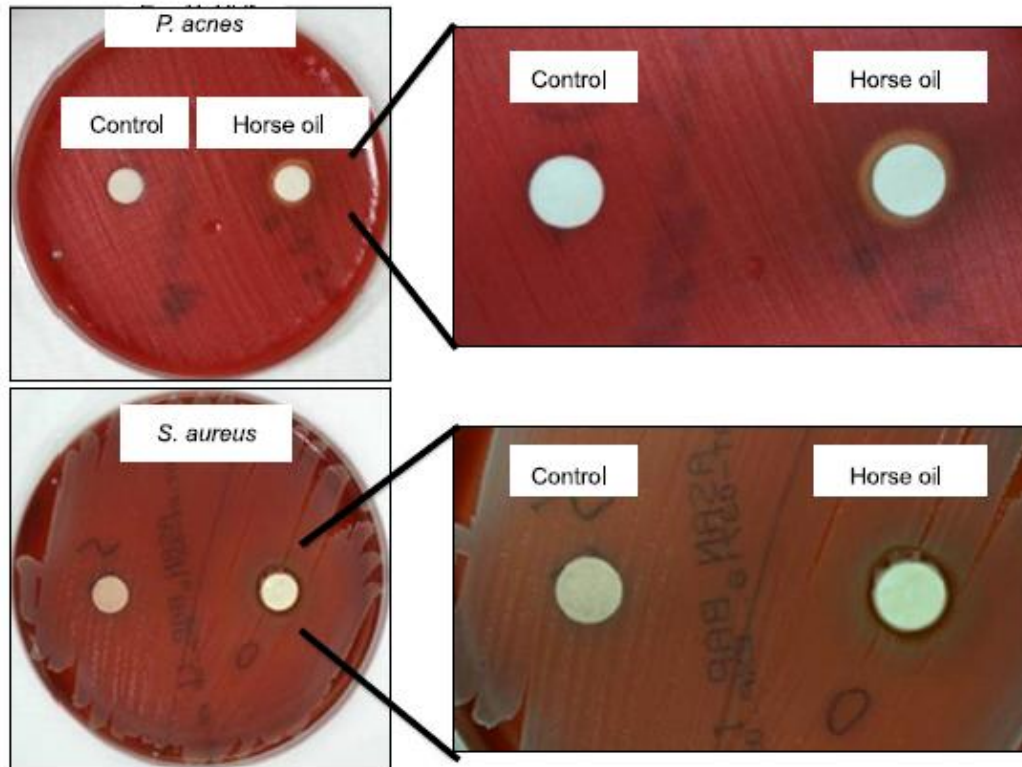


Horse Oil 100ppm

# Anti-inflammation effect (Macrophage, Real-time PCR)



## Anti-microbial effect (from the published article)



**Fig. 1.** Anti-microbial effect of horse oil on *P. acnes* and *S. aureus*. Bacteria were cultured on blood agar plate with horse oil. Clear zone around disc was observed clearly under horse oil.

\* Effect of horse oil on anti-bacterial, inflammatory cytokines, and type I collagen expression in human HacaT keratinocytes and fibroblasts, Kyoung Hwa Choi et al., *Korean J Dermatol*, 2014



## Benefit of horse oil for cosmetics

- ✓ Well absorption and affinity to a human skin (Moisturizing)
- ✓ Cell migration (Wound healing)
- ✓ Anti-inflammation and anti-bacterial effect

In Korea and China, there has been a craze for horse oil cosmetics recently.

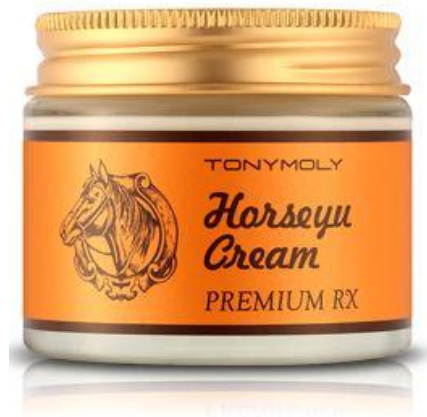


# MARKET CASE



- Company : CLAIRE'S KOREA
- Brand : GUERISSON 9 COMPLEX
- Most popular horse oil cream brand. This brand also has various types of formula such as essence, lotion and facial mask (horse oil 500ppm)

# MARKET CASE



- Company : TONYMOLY
- Product name : PREMIUM RX HORSE OIL CREAM
- This brand also has a cream and facial mask (horse oil 200ppm)

# MARKET CASE



- Company : THE SAEM
- Product name : ROYAL NATURAL HORSE OIL CREAM
- This brand also has a cream, toner and essence (all formula contains horse oil 1%)

# MARKET CASE



- Company : It's SKIN
- Product name : JEJU HORSE OIL CREAM