

---

Specification : Purple glutinous rice extract loaded in Nanovesicles/  
สารสกัดข้าวเหนียวดำเก็บกักในอนุภาคนาโน  
(Manose RM-027)

(Application : An active ingredient for anti-wrinkle / whitening cosmetic  
and food supplements / สารสำคัญในผลิตภัณฑ์เครื่องสำอางต้านริ้วรอย /  
ช่วยให้ผิวขาวและผลิตภัณฑ์เสริมอาหาร)

1. Name of the raw material : Purple glutinous rice extract loaded in nanovesicles
2. Active components : Purple glutinous rice extract 1 % (anthocyanins)
3. Common and scientific name/ Family of the plant : Purple glutinous rice (*Oryza sativa* L.)/ GRAMINEAE
4. Physical appearance : Turbid light purple suspension with specific herbal odor
5. pH : 5
6. Standardization : HPLC fingerprint using anthocynins as a marker
7. Solubility : Soluble in ethanol
8. Microbial contamination : No pathogenic microorganism with less than 1,000 cfu/g of the total plate count of bacteria, yeast and fungi which is conformed to the Thai FDA regulation
9. Biological activities : Anti-oxidant (DPPH, lipid peroxidation and chelating activity)<sup>(1)</sup> and whitening effect by tyrosinase inhibition<sup>(1)</sup>

**An International Leader in Research and Development of Natural Products**

ผู้นำระดับนานาชาติในการวิจัยและพัฒนาผลิตภัณฑ์ธรรมชาติ

- 
- 10. Animal / human performance test : Anti-wrinkle and skin whitening in human volunteers<sup>(1)</sup>
  - 11. Safety : No skin irritation in human volunteers
  - 12. Pharmaceutical, food supplement or cosmetic applications : Anti-wrinkle/ whitening cosmetic and food supplement products
  - 13. Recommended concentrations in the product : 1-5 % w/w
  - 14. Storage : Keep in tight and light protection container at room temperature
  - 15. Precautions : None
  - 16. Cost per kg : Please request

**Reference**

1. Manosroi A, Chankhampan C, Kumguan K, Manosroi W, Manosroi J. (2012) Anti-aging performance evaluation of cream containing niosomes loaded with the purple glutinous rice (*Oryza sativa* Linn.) extract. **International Journal of Cosmetic Science**. 42 : 622 - 631 (Corresponding author and co-authors are from Manose Health and Beauty Research Center)