

“Formulation and Evaluation of Traditional antioxidant Grape Seeds Extract In The Form Of Tablets”

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ABSTRACT:

Grape seed extract (GSE) is a dietary supplement made by removing, drying, and pulverizing the bitter-tasting seeds of grapes.

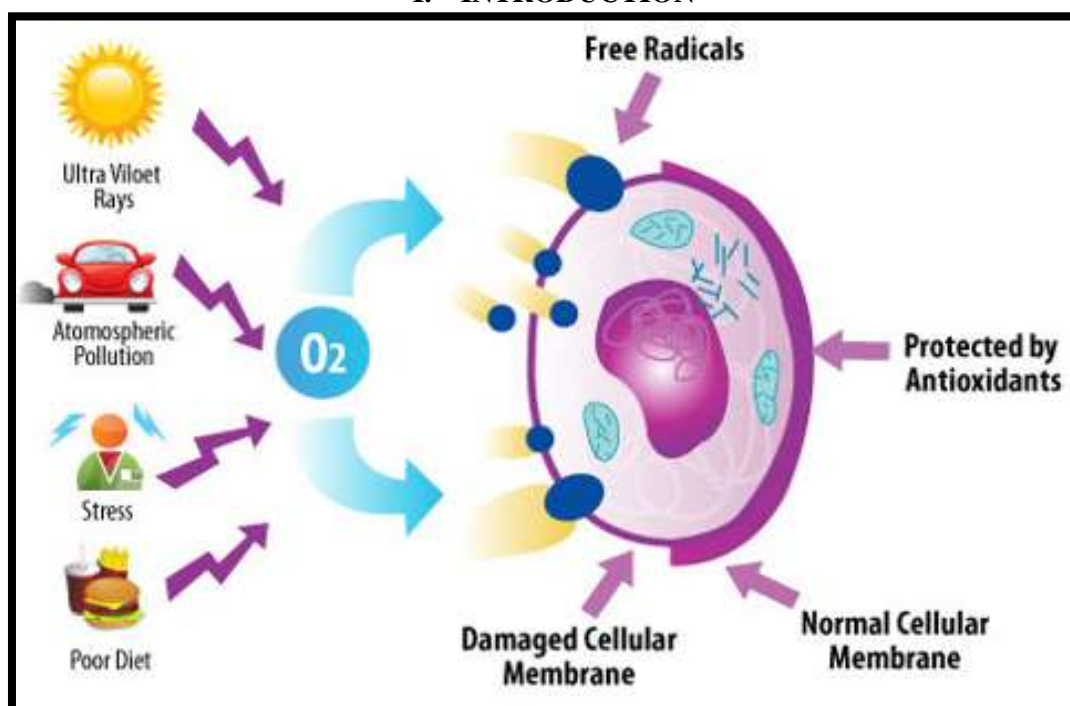
Grape seeds are rich in antioxidants, including phenolic acids, anthocyanins, flavonoids, and oligomericproanthocyanidin complexes (OPCs).

In fact, GSE is one of the best-known sources of proanthocyanidins.

Due to its high antioxidant content, GSE can help prevent disease and protect against oxidative stress, tissue damage, and inflammation.

Note that grape seed extract and grapefruit seed extract are both marketed as supplements and abbreviated by the acronym GSE. This article discusses grape seed extract.

I. INTRODUCTION



- Antioxidants have been defined as an any molecule that can retard or prevent the action of oxidants from oxidation.
- The most common oxidants in biological systems are free radicals.

- Free radicals are atoms, molecules or ions with unpaired electrons that are highly unstable and active towards chemical reactions with other molecules.

- Synthetic antioxidants gives carcinogenic effect and improves risk of many chronic diseases like CVD.
- **Sources of Free Radicals-**
- Cigarette smoke
- Pollutants
- Respiratory burst
- Enzyme reactions
- Ionizing radiation
- UV light

HERBAL SOURCES OF ANTIOXIDENT

Sr. no.	Antioxidants	Natural sources of antioxidants
1	Vitamin C	Citrus Fruits, Green Peppers, Broccoli, Green Leafy Vegetables, Strawberries, Raw Cabbage, Potatoes
2	Vitamin E	Wheat Germ, Nuts, Seeds, Whole Grains, Green Leafy Vegetables, Vegetable Oil, Fish-liver Oil
3	Poly-phenolics	Apples, Blackberries, Broccoli, Cabbage, Cantaloupe, Celery Cherries, Chocolate, Coffee, Cranberries, Green Tea, Grapes , Olive Oil, Onion, Parsley, Pears, Plums, Raspberries, Red Wine, Strawberries
4	Flavonoids	Cranberries, Kale, Beets, Berries, Red and Black Grapes , Oranges, Lemons, Grape fruits, Green Tea

Herbal antioxidants

GRAPE SEED EXTRACT (GSE)

Biological Name - Vitisvinifera Linn,
 Vitiscoignetiae Linn
Family - Vitaceae

Organoleptic properties:

Colour: Dark brown

Odour: Sweetish

Taste: Sweet

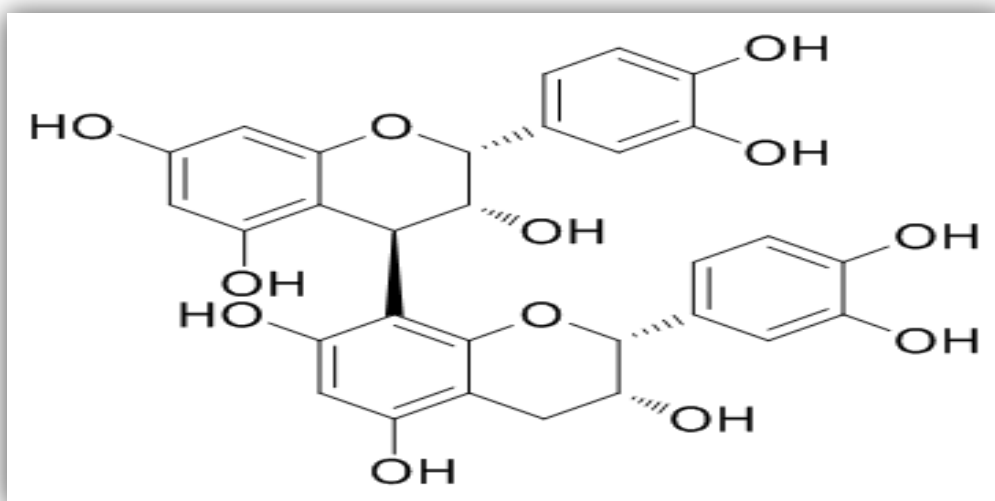
Chemical Constituents :
 Oligomericproanthocyanidin

Solubility: Soluble in water.

Storage: Store in well closed container

Mechanism of action:

Grape seed's antioxidant activity is exerted via inhibition of the several proteolytic enzymes (collagenase, elastase, hyaluronidase, and beta glucuronidase), which are involved in breakdown of structural components of the vasculature and skin.



STANDARDIZATION OF GRAPE SEED EXTRACT

1. Morphological studies:
Evaluation of colour, odour and texture etc.
2. Determination of pH:
 - a) pH of 1% solution
3. Loss on drying: Determination of moisture content
4. Determination of ash value:
 - a) Determination of total ash value
 - b) Determination of acid insoluble ash value
 - c) Determination of water soluble ash value

RESULTS OF STANDARDIZATION STUDY

Sr. no.	Test	Observation
1	Colour	Dark Brown
2	Odour	Sweetish
3	Texture	Smooth
4	PH 1%	6.5
5	LOD	2.1%
6	Ash value: Total ash value acidin soluble ash value water soluble ash value	5.4% 1.5% 0.5%

standardizations of Grape seed extract powder

MATERIALS & EVALUATION TEST

SR. NO.	MATERIAL	PROPERTY
1.	Grape seed extract	Pure Drug
2.	Crosspovidone	Superdisintegrant
3.	Lactose	Bulking Agent
4.	Magnesium Stearate	Lubricant
5.	Starch	Disintegrant
6.	Talc	Glident
7	HPMC	Binding agent
8	Gum Acacia	Binding agent

II. MATERIALS AND METHODS

EQUIPMENT'S USED

SR. NO.	EQUIPMENT
1.	Digital balance
2.	pH meter
3.	UV –spectrophotometer
4.	Sonicator
5	Dissolution aparatus
6	IR spectroscopy
7	Heating Mental

Equipments

EVALUATION PARAMETER OF GRAPE SEED EXTRACT TABLETS

- Tablet thickness and size
- Hardness
- Friability
- Uniformity of weight
- In vitro Drug Release
- Stability study
- 1, 1-diphenyl-2-picrylhydrazyl (DPPH) Radical scavenging activity

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