



Document prepared by Nerve Center of TFORD, Venture Center, Pune  
**Task Force on Repurposing of Drugs (TFORD) for COVID19**  
 S&T Core Group on COVID19 constituted by PSA to Gol

## Medicinal Herb Briefs: *Vitis vinifera*

**Ref:** TFORD/MHB/008 **Date:** 26 May 2020

**About this document:** This document summarizes information available on medicinal herb candidates for COVID19. One Medicinal Herb Brief document covers one candidate at a time.

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### 1. Summary Information on *Vitis vinifera*

Information About the Herb for Reported Indication(s)	
Common Name	Grapevine
Botanical Name (Family)	<i>Vitis vinifera</i> (Vitaceae)
Type of Plant/Source of Herbal Ingredients	Climbing Plant Source – Fruit, Seed oil, Flower <a href="#">Medicinal uses of vitis vinifera in unani system of medicine</a>
TKDL Information	58 mentions for this Herb in TKDL
Indian Pharmacopeia Information	Herbal Drug Monograph available in Indian Pharmacopeia 2018
Reported Pharmacological Effects	Anti-oxidant, Anti-inflammatory, Anti-microbial, Cardioprotective, Hepatoprotective, and Neuroprotective <a href="https://www.ncbi.nlm.nih.gov/pubmed/17364701">https://www.ncbi.nlm.nih.gov/pubmed/17364701</a> <a href="https://onlinelibrary.wiley.com/doi/epdf/10.1002/ptr.2761">https://onlinelibrary.wiley.com/doi/epdf/10.1002/ptr.2761</a>
Reported Therapeutic Target(s)	The herb has many constituents but no Major Bioactive. Reported targets for some constituents are: Polyphenols - IL-1 $\beta$ , TNF, COX-2 Procyanidines – Xanthane Oxidase, Collagenase, Elastase, Hyaluronidase and Beta-glucuronidase <a href="https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x">https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x</a> <a href="https://www.ncbi.nlm.nih.gov/pubmed/8024628">https://www.ncbi.nlm.nih.gov/pubmed/8024628</a>
Reported Mode of Action	Antioxidant activity: Attributed to inhibition of the Xanthine Oxidase activity, increase in Superoxide Dismutase, Hemeoxygenase-1, and Glutathione peroxidase activities. Reduced Glutathione content and decrease in Malondialdehyde levels and activation of the Nuclear Erythroid2-related factor2/ARE pathway. <a href="https://www.ncbi.nlm.nih.gov/pubmed/8024628">https://www.ncbi.nlm.nih.gov/pubmed/8024628</a> <a href="https://onlinelibrary.wiley.com/doi/abs/10.1002/ptr.6168">https://onlinelibrary.wiley.com/doi/abs/10.1002/ptr.6168</a> Anti-inflammatory: Inhibits Th cell mediated cytokine release, Polyphenols are known to inhibit Nk-kB, MAPK mediated effects. <a href="https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x">https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x</a> <a href="https://www.sciencedirect.com/science/article/pii/S0254629918319926#bb0210">https://www.sciencedirect.com/science/article/pii/S0254629918319926#bb0210</a>
Herb is reported to be	Antioxidant Supplementation and Vascular Disease Prevention

beneficial for which conditions?	<a href="https://www.ema.europa.eu/en/documents/herbal-report/superseded-assessment-report-vitis-vinifera-l-folium-first-version_en.pdf">https://www.ema.europa.eu/en/documents/herbal-report/superseded-assessment-report-vitis-vinifera-l-folium-first-version_en.pdf</a>
Is the herb or its extract form used for clinical purposes?	Yes
Prescribed Dose	150 to 2,000 mg/day. A dose of 300 mg/day has been studied over 24 weeks. <a href="https://www.ncbi.nlm.nih.gov/pubmed/21802563">https://www.ncbi.nlm.nih.gov/pubmed/21802563</a>
Route of Administration	Oral
Safety Profile (dose range in which it has been tested to be safe in humans)	100-300 mg/day. Highest safe dose unknown. <a href="https://www.ema.europa.eu/en/documents/herbal-report/superseded-assessment-report-vitis-vinifera-l-folium-first-version_en.pdf">https://www.ema.europa.eu/en/documents/herbal-report/superseded-assessment-report-vitis-vinifera-l-folium-first-version_en.pdf</a>
Adverse events/Side effects reported at the current prescribed dose	Grape seed is contraindicated in patients with known hypersensitivity. Clinical trials have reported grape seed extract to be well tolerated. <a href="https://www.ncbi.nlm.nih.gov/pubmed/16034893">https://www.ncbi.nlm.nih.gov/pubmed/16034893</a>
Reported Drug-Herb interactions	Blood thinners, NSAID painkillers (like aspirin, Advil, and Aleve), certain heart medicines, cancer treatments, and others Interacts with Stilbene Synthase, Agents with Anti-platelet properties, Anticoagulants, Salicylates, Thrombolytic agents <a href="http://www.eurekaselect.com/68256/article">http://www.eurekaselect.com/68256/article</a> <a href="https://www.ncbi.nlm.nih.gov/pubmed/17908423">https://www.ncbi.nlm.nih.gov/pubmed/17908423</a>
Link to Datasheet	Data not available
Regions where Herb is found	Local Distribution: Maharashtra, Karnataka, Kerala, Tamil Nadu <a href="https://indiabiodiversity.org/species/show/264500">https://indiabiodiversity.org/species/show/264500</a>
Is the Herb or Extract being sold in India?	Yes
Indian Manufacturer(s)	Grape seed extract: Allpure organics, Medlife Essentials, Health Aid
International Manufacturer(s)	<a href="#">Keller Juices S.R.L.</a> , <a href="#">SCIYU</a> , <a href="#">Nans Products</a> , <a href="#">GRAP'SUD</a> , <a href="#">Nutri Herb</a> , <a href="#">Plamed Green Science Group</a> , <a href="#">Botanic Innovations</a> , <a href="#">NaturMed Scientific</a> , <a href="#">Extracts and Ingredients</a> , <a href="#">Indena</a> , <a href="#">Tianjin Jianfeng Natural Product RandD</a> , <a href="#">Polyphenolics</a> , <a href="#">Augusto Bellinvia</a> , <a href="#">Naturex</a> , <a href="#">Nexira</a>
Cost of the Herb and Extract products in India	1200-1800/-per kg
<b>Information About the Major Bioactive for Reported Indication(s)</b>	
<b>NOTE – THIS INFORMATION IS ONLY FOR THE MAJOR BIOACTIVE IN THE HERB</b>	
What is the Major Bioactive in the Herb?	No Major Bioactives reported. Grape seed and skin contain several active components including Gallic Acid, Polyphenols (Catechin, Epicatechin, Epigallocatechin, Epicatechin Gallate, Epigallocatechin Gallate, Resveratrol), Procyanidins, Anthocyanins, Proanthocyanidins <a href="https://www.sciencedirect.com/science/article/pii/S030881460400161X">https://www.sciencedirect.com/science/article/pii/S030881460400161X</a>
Is the Major Bioactive, in isolated form used for clinical purposes?	Data not available
Drug Bank ID	Data not available
Reported Pharmacological effects	Data not available
Reported Therapeutic Target	Data not available
Reported Mode of Action	Data not available
Bioactive is reported	Data not available

to be beneficial for which conditions?	
Prescribed Dose	Data not available
Route of Administration	Data not available
Safety Profile (dose range in which it has been tested to be safe in humans)	Data not available
Adverse events/Side effects reported at the current prescribed dose	Data not available
Reported Drug-Bioactive interactions	Data not available
Link to Datasheet for Bioactive	Data not available
Is the Bioactive being sold in India?	Data not available
Indian Manufacturer(s)	Data not available
International Manufacturer(s)	Data not available
Cost of the Bioactive in India	Data not available
<b>Information About the Candidate for COVID-19</b>	
Repurposing Claim	Data not available
Rationale for Repurposing for COVID19/MoA? –	<ul style="list-style-type: none"> <li>• Anti-viral activity: Reported for extract against HCV, HIV Type 1, Human Enteric Virus, Human Norovirus surrogates, Hepatitis A in in-vitro studies  <a href="https://www.ncbi.nlm.nih.gov/pubmed/12462994">https://www.ncbi.nlm.nih.gov/pubmed/12462994</a>  <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3131668/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3131668/</a>  <a href="https://www.ncbi.nlm.nih.gov/pubmed/26338111">https://www.ncbi.nlm.nih.gov/pubmed/26338111</a>  <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5174132/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5174132/</a> </li> <li>• Anti-oxidant activity: Has been demonstrated for extract through in-vitro, in-vivo and clinical studies where anti-oxidant activity results in cardioprotective, neuroprotective and hepatoprotective effects.  <a href="https://core.ac.uk/download/pdf/158622350.pdf">https://core.ac.uk/download/pdf/158622350.pdf</a> </li> <li>• Anti-inflammatory: Reported for extract and constituents. Downregulates pro-inflammatory cytokines like TNF<math>\alpha</math>, IL-1<math>\beta</math>, IL-4 etc in in-vitro and in-vivo (allergic asthma model) studies.  <a href="https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x#Sec1">https://aacijournal.biomedcentral.com/articles/10.1186/s13223-016-0145-x#Sec1</a>  <a href="https://core.ac.uk/download/pdf/158622350.pdf">https://core.ac.uk/download/pdf/158622350.pdf</a> </li> </ul>
Proposed use as Primary or Adjuvant?	Both Primary and Adjuvant
Pre-Clinical Data available for COVID-19	<ul style="list-style-type: none"> <li>• A computational study shows <math>\delta</math>-Viniferin, a constituent of <i>V. vinifera</i> potently binds to Main protease and RdRp of SARS-CoV-2 and human ACE-2 receptor.  <a href="https://europepmc.org/article/PPR/PPR148909">https://europepmc.org/article/PPR/PPR148909</a> </li> <li>• A computational study shows Piceatannol, a constituent of <i>V. vinifera</i>, has high binding affinity (mfScore&lt;-150 or score&lt;-35) for SARS-CoV-2 Spike protein.  <a href="https://www.sciencedirect.com/science/article/pii/S2211383520302999">https://www.sciencedirect.com/science/article/pii/S2211383520302999</a> </li> </ul>
Status of Clinical Trials	No ongoing trials
Trial Details	Data not available
Key Data from	Data not available

Clinical Trials									
IP Status	<table border="1"> <thead> <tr> <th>Status/ Molecule</th> <th><i>Vitis vinifera</i></th> </tr> </thead> <tbody> <tr> <td>Approved and Active applications</td> <td> <p><a href="#">233541</a>  Title: A health protective herbal soft drink  Assignee: Council of Scientific and Industrial Research (National Botanical Research Institute, Lucknow)  Priority Date: 29/06/2005  Grant date: 27/03/2009  Expected date of expiry: 20/12/2022</p> </td> </tr> <tr> <td>Pending applications</td> <td> <p><a href="#">201641004921</a>  Title: Composition comprising <i>Andrographis Paniculata</i> extract, and <i>VitisVinifera</i> L, extract, and uses thereof  Assignee: ITC Life Sciences &amp; Technology Centre  Filing date: 11/02/2016  Status: Published: 18/08/2017  <a href="#">3038/DEL/2012</a>  Title: Herbal cough candy and process for the preparation of the same  Assignee: Amity University  Filing date:28/09/2012  Status: Published: 25/04/2014  <a href="#">1066/DEL/2009</a>  Title: A process for the preparation of a composition useful for treatment in chronic respiratory disorders  Inventor: Marozhukayil Joseph Jose  Filing date: 25/05/2009  Status: Published: 01/01/2010  <a href="#">2939/DELNP/2004</a>  Title: A herbal soft drink  Assignee:Council Of Scientific And Industrial Research (National Botanical Research Institute, Lucknow)  Filing Date: 29/09/2004  Status: Application Is Awaiting Examination  <a href="#">201641008882</a>  Title: Composition comprising cocoa extract, and grape seed extract and uses thereof  Assignee: ITC Limited  Filing date: 14/03/2016  Status: Published: 15/09/2017  <a href="#">2811/DEL/2013</a>  Title: Mouth dissolving compositions comprising grape seed extracts and uses thereof.  Inventors: Kayat Shashi, Vasudeva Neeru, Dhari Jatinder  Filing date: 24/09/2013  Status: Published: 27/03/2015</p> </td> </tr> <tr> <td>Expired or Lapsed application</td> <td>Not Applicable</td> </tr> </tbody> </table>	Status/ Molecule	<i>Vitis vinifera</i>	Approved and Active applications	<p><a href="#">233541</a>  Title: A health protective herbal soft drink  Assignee: Council of Scientific and Industrial Research (National Botanical Research Institute, Lucknow)  Priority Date: 29/06/2005  Grant date: 27/03/2009  Expected date of expiry: 20/12/2022</p>	Pending applications	<p><a href="#">201641004921</a>  Title: Composition comprising <i>Andrographis Paniculata</i> extract, and <i>VitisVinifera</i> L, extract, and uses thereof  Assignee: ITC Life Sciences &amp; Technology Centre  Filing date: 11/02/2016  Status: Published: 18/08/2017  <a href="#">3038/DEL/2012</a>  Title: Herbal cough candy and process for the preparation of the same  Assignee: Amity University  Filing date:28/09/2012  Status: Published: 25/04/2014  <a href="#">1066/DEL/2009</a>  Title: A process for the preparation of a composition useful for treatment in chronic respiratory disorders  Inventor: Marozhukayil Joseph Jose  Filing date: 25/05/2009  Status: Published: 01/01/2010  <a href="#">2939/DELNP/2004</a>  Title: A herbal soft drink  Assignee:Council Of Scientific And Industrial Research (National Botanical Research Institute, Lucknow)  Filing Date: 29/09/2004  Status: Application Is Awaiting Examination  <a href="#">201641008882</a>  Title: Composition comprising cocoa extract, and grape seed extract and uses thereof  Assignee: ITC Limited  Filing date: 14/03/2016  Status: Published: 15/09/2017  <a href="#">2811/DEL/2013</a>  Title: Mouth dissolving compositions comprising grape seed extracts and uses thereof.  Inventors: Kayat Shashi, Vasudeva Neeru, Dhari Jatinder  Filing date: 24/09/2013  Status: Published: 27/03/2015</p>	Expired or Lapsed application	Not Applicable
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Other references	<ul style="list-style-type: none"> <li>• <a href="http://cms.herbalgram.org/herbalgram/issue119/hg119-herbprofile-grapeseed.html?ts=1589001700&amp;signature=1a9d546e795a7314a16afee9c987f904">http://cms.herbalgram.org/herbalgram/issue119/hg119-herbprofile-grapeseed.html?ts=1589001700&amp;signature=1a9d546e795a7314a16afee9c987f904</a></li> <li>• <a href="#">Identification of myricetin and scutellarein as novel chemical inhibitors of the SARS coronavirus helicase, nsP13</a></li> <li>• <a href="#">Effective inhibition of MERS-CoV infection by resveratrol</a></li> <li>• <a href="http://www.euromed.es/euromed/wp-content/uploads/2018/04/pepita_de_uva_b.pdf">http://www.euromed.es/euromed/wp-content/uploads/2018/04/pepita_de_uva_b.pdf</a></li> </ul>								

## 2. Background information

### **About TFORD-COVID19**

*The Principal Scientific Advisor to the GoI, Dr K VijayRaghavan, has constituted a S&T Core Group on COVID19. Under the aegis of the S&T Core Group on COVID19, a Task Force has been constituted focused on Repurposing of Drugs for COVID19 (in short “TFORD-COVID19”). The Task Force is being coordinated by Dr V Premnath, Head, NCL Innovations at CSIR-NCL and Director, Venture Center and Dr Anurag Agarwal, Director, CSIR-IGIB. The Nerve Center for the Coordination is located be at Venture Center, Pune (located in the campus of CSIR-NCL).*

### **Credits**

*Editors: Dr. Priya Nagaraj & Dr Smita Kale; Contributors: Dr. Priya Nagaraj, Dr. Vidula Walimbe, Dr. Smita Kale, Dr. Kirtee Wani, Dr. Tejas Shah, Dr. Swati Joshi, Dr. Manisha Premnath, Dr. Premnath V; Information also contributed by Dr Gopakumar Nair, GNAS and GnanLex.*

### **About Advisory Group**

*The Nerve Center at TFORD-COVID19 has constituted an inter-disciplinary Advisory Group. This Advisory Group reviews the information compiled by the Nerve Center, provides suggestions on data, information sources, organization of data etc. while also providing inputs to refine the analysis and create a structured information base to support decision-making. The Advisory Group also provides expert input and opinions on certain selected points where experience-based inputs are needed. The members of the Advisory Group for each Discussion Paper are listed at <https://nclinnovations.org/covid19/teams/>.*

### **Disclaimer**

*This Medicinal Herbal Brief is a compilation of information available openly with no opinions or judgments or recommendations. This document is meant to compile high-quality information that can form the basis for informed discussion and decision-making. It is not meant to reflect the Government’s position or that of any specific organization or individual. This information should also not be interpreted as guidance for clinical case management.*