



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: *Cissampelos pareira*

Ref: TFORD/MHB/007 **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 *Cissampelos pareira*

Information About the Herb for Reported Indication(s)	
Common Name	Patha, Ambastha, Laghupatha, Abuta, Velvet leaf
Botanical Name (Family)	<i>Cissampelos pareira</i> (Menispermaceae)
Type of Plant/Source of Herbal Ingredients	Climbing Herb Source – Roots https://www.researchgate.net/publication/316191453_Ethnomedicinal_Uses_Phytochemistry_and_Pharmacology_of_Cissampelos_pareira_A_Review
TKDL Information	26 mentions for this Herb on TKDL
Indian Pharmacopeia Information	Not mentioned in the Indian Pharmacopeia 2018
Reported Pharmacological Effects	Immuno-modulatory, Anti-inflammatory, Anti-pyretic, Neuroprotective, Anti-venom, Anti-viral, Anti-hyperglycemic, Anti-oxidant, Anti-diuretic https://www.researchgate.net/publication/316191453_Ethnomedicinal_Uses_Phytochemistry_and_Pharmacology_of_Cissampelos_pareira_A_Review/link/58f5fc1c458515ff23b65f68/download
Reported Therapeutic Target(s)	Macrophages, T cells, B cells, Mast cells, Neutrophils, Nerve cells, Eosinophils https://www.researchgate.net/publication/262713771 https://www.ncbi.nlm.nih.gov/pubmed/22480776
Reported Mode of Action	<ul style="list-style-type: none"> Immunomodulatory activity: Stimulating Delayed Type Hypersensitivity Response, increase in phagocytic index and WBC count. https://www.researchgate.net/publication/279545614 Anti-inflammatory activity: Inhibits synthesis, release or action of inflammatory mediators - histamine, 5-HT and prostaglandins involved in inflammation https://www.sciencedirect.com/science/article/abs/pii/S0378874106005241?via%3Dihub Antiviral activity: Extract inhibits viral antigen secretion and viral replication. Reported for Dengue Virus

	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4692392/
Herb is reported to be beneficial for which conditions?	Treatment of Cough, Abdominal Pain, Kidney stones and infections, Asthma, Arthritis, Diarrhoea, Dysentery and fever http://www.ayurveda.hu/api/API-Vol-1.pdf
Is the herb or its extract form used for clinical purposes?	Yes – Both
Prescribed Dose	3-6 g of the drug in powder form http://www.ayurveda.hu/api/API-Vol-1.pdf
Route of Administration	Oral
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-Herb interactions	Increase in the activities of NADPH-cytochrome P450 reductase enzymes and glutathione -S-transferase observed in in-vitro studies https://www.tandfonline.com/doi/pdf/10.1080/13880200701538641
Link to Datasheet	Data not available
Regions where Herb is found	Local Distribution: Maharashtra, Uttar Pradesh, Assam, Punjab, Kerala, Tamil Nadu https://indiabiodiversity.org/species/show/229172
Is the Herb or Extract being sold in India?	Yes – Both
Indian Manufacturer(s)	Konark Herbals & Healthcare
International Manufacturer(s)	Data not available
Cost of the Herb and Extract products in India	Rs. 850/Kg
Information About the Major Bioactive for Reported Indication(s) NOTE – THIS INFORMATION IS ONLY FOR THE MAJOR BIOACTIVE IN THE HERB	
What is the Major Bioactive in the Herb?	No Major Bioactive reported Chemical constituents reported are - Hayatin (dl-becberine), Hayatinin, Menismine, Cissamine, Pareirine, Cycleanine, Bebeerine, Hayatidin, (+) Quercitol etc. http://www.indianmedicinalplants.info/d6/index.html
Is the Major Bioactive, in isolated form used for clinical purposes?	Not applicable
Drug Bank ID	Not applicable
Reported Pharmacological effects	Not applicable
Reported Therapeutic Target	Not applicable
Reported Mode of Action	Not applicable
Bioactive is reported to be beneficial for	Not applicable

which conditions?	
Prescribed Dose	Not applicable
Route of Administration	Not applicable
Safety Profile (dose range in which it has been tested to be safe in humans)	Not applicable
Adverse events/Side effects reported at the current prescribed dose	Not applicable
Reported Drug-Bioactive interactions	Not applicable
Link to Datasheet for Bioactive	Not applicable
Is the Bioactive being sold in India?	Not applicable
Indian Manufacturer(s)	Not applicable
International Manufacturer(s)	Not applicable
Cost of the Bioactive in India	Not applicable
Information About the Candidate for COVID-19	
Repurposing Claim	Data not available
Rationale for Repurposing for COVID19/MoA? –	<ul style="list-style-type: none"> Anti-viral & Anti-inflammatory activity: Reported for the herb extract for 4 strains of Dengue Virus in in-vitro and in-vivo studies. The extract also inhibits pro-inflammatory cytokine release – TNF-α, IL-1β in human PBMCs https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4692392/ A news article states – “Sun Pharma has submitted a proposal CDSCO to conduct limited randomised trials to test the efficacy of <i>C.pareira</i> in treating COVID-19. The company is betting on the antiviral properties of the medicine which were found effective against dengue disease in the initial stages of human trials.” https://theprint.in/health/sun-pharmas-plant-based-under-trial-dengue-drug-could-be-tested-for-covid-treatment/411500/
Proposed use as Primary or Adjuvant?	Data not available
Pre-Clinical Data available for COVID-19	Data not available
Status of Clinical Trials	No ongoing trials
Trial Details	Data not available
Key Data from Clinical Trials	Data not available
IP Status	<p>Status/ Molecule <i>Cissampelos pareira</i></p> <p>Approved and Active applications 292257</p> <p>Title: Formulation for prevention and treatment of bacterial infections and process for preparation thereof</p> <p>Inventor: Shatrughna Prasad Vaidya</p> <p>Filing date: 10/07/2009</p> <p>Grant date: 30/01/2018</p> <p>Estimated Expiry date : 10/07/2029</p>

	<p>Expired or Lapsed application</p> <p>2221/DEL/2008 Title: Herbal formulation for prevention and treatment of diabetes and a process for preparing the said formulation Assignee: Innoveda Biological Solutions (P) Ltd Filing date: 22/09/2008 Publication date: 09/04/2010 Status: Application refused U/S 15</p> <p>488/KOL/2011 Title: A synergistic herbal extract composition for use in treating arthritis Inventor: Mahakul, Haladhar Filing date: 04/08/2011 Publication date: 12/12/2014 Status: Patent Application refused U/S 15</p> <p>6142/DELNP/2011 Title: Anti dengue activity of cissampelos pareira extracts Assignee: Ranbaxy Laboratories Limited Priority Date: 23/01/2009 Publication date: 03/02/2012 Status: Application refused U/S 15</p>
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	<p>11520/DELNP/2015 (Div. of 6142/DELNP/2011) Title: Use of <i>Cissampelos Pareira</i> extracts for treating dengue Assignee: Sun Pharmaceutical Industries Limited; International Centre for Genetic Engineering and Biotechnology and Department of Biotechnology Filing date: 17/12/2015 Publication date: 23/06/2016 Status: Abandoned u/s 21(1)</p> <p>4066/DELNP/2005 (Div. of IN244699) Title: Herbal and pharmaceutical drugs enhanced with probiotics Inventor: Reddy Mali Reddy S. Priority Date: 19/09/1998 Publication date: 24/08/2007 Status: FER issued on 11/04/2008, no reply to FER has been submitted till due date. The application may be considered as abandoned</p> <p>1222/DEL/2009 Title: A herbal formulation for prevention and treatment of diabetes and associated complications Assignee: Innoveda Biological Solutions (P) Ltd. Filing date: 15/06/2009 Publication date: 24/12/2010 Status: FER was issued on 26/09/2014 however no reply appears to have been filed. The application may be considered as abandoned.</p> <p>1223/DEL/2009 Title: Herbal formulation for prevention and treatment of diabetic retinopathy Assignee: Innoveda Biological Solutions (P) Ltd. Filing date: 15/06/2009 Publication date: 24/12/2010 Status: FER was issued on 29/09/2014 however no reply appears to have been filed. The application may be considered as abandoned.</p> <p>1224/DEL/2009 Title: A herbal cardiac protective antioxidant formulation useful in management of hypertension Assignee: Innoveda Biological Solutions (P) Ltd. Filing date: 15/06/2009 Publication date: 24/12/2010 Status: FER was issued on 29/09/2014 however no reply appears to have been filed. The application may be considered as abandoned.</p>
Other references	<p>http://www.indianmedicinalplants.info/d6/Cissampelos-parieta-Cyclea-peltata(Patha).html</p>

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.