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2018年11月19日

前沿资讯

1. Bulk tea growers likely to witness sizeable adverse impact on operating cost（散装茶农可能会对运营成本产生相当大的负面影响）

简介：Wages of tea plantation workers in the states of Assam and West Bengal, which account for almost 80% of India's bulk tea production, have recently witnessed steep increases of Rs 30/day and Rs 34.5/day respectively in the current calendar year. This would have a sizeable adverse impact on the operating cost of bulk tea players in Assam and West bengal, who have already witnessed pressures on operating margins over the last few years driven mainly by increased labour costs and inadequate increase in realization.

来源：The Economic Times 网站

发布日期:2018-10-11

全文链接:http://agri.ckcest.cn/ass/74618a00-879d-4e48-ada1-3958ca3d30c1.pdf

2. India makes big push to expand tea export to China（印度大力推动向中国出口茶叶）

简介：印度通过举办茶叶推广活动，强烈推动在中国红茶市场的稳定增长，官方称这将有助于扩大两国之间的茶叶贸易。印度茶叶委员会和中国茶叶营销协会联合于10月23日至25日在印度大使馆举行了印度茶叶推广活动。两国茶叶的主要买家和卖家就两国扩大茶叶贸易的前景进行了会晤和互动。印度茶叶委员会副主席Anil Kumar Ray本周二对媒体说，印度去年出口了约900万吨茶叶，占中国进口量的30%。由顶级茶叶商行组成的印度代表团访问了中国，以开拓中国市场，扩大出口基地。今天，中国是绿茶的主要生产国，年产25亿5000万公斤。印度是红茶的主要生产国，年产12亿7800万公斤。去年，印度向中国出口了价值2500万美元的茶叶。印度将美中贸易战视为扩大中国市场、增加对华农产品出口的机会。印度希望减少与中国的贸易逆差。如果印度抓住这个机会与中国建立互联，进一步扩大贸易，这对双方来说无疑是双赢的局面。

来源：The Economic Times 网站

发布日期:2018-10-25

全文链接:http://agri.ckcest.cn/ass/49aefba3-6ec9-4cb1-8088-6f15ac6666c3.pdf

学术文献

1. Anti-infective properties of epigallocatechin-3-gallate (EGCG), a component of green tea (绿茶的一种成分EGCG的抗感染特性)

简介：The consumption of green tea (*Camellia sinensis*) has been shown to have many physiological and pharmacological health benefits. In the past two decades several studies have reported that epigallocatechin-3-gallate (EGCG), the main constituent of green tea, has anti-infective properties. Antiviral activities of EGCG with different modes of action have been demonstrated on diverse families of viruses, such as *Retroviridae*, *Orthomyxoviridae* and *Flaviviridae* and include important human pathogens like human immunodeficiency

virus, influenza A virus and the hepatitis C virus. Furthermore, the molecule interferes with the replication cycle of DNA viruses like hepatitis B virus, herpes simplex virus and adenovirus. Most of these studies demonstrated antiviral properties within physiological concentrations of EGCG *in vitro*. In contrast, the minimum inhibitory concentrations against bacteria were 10100-fold higher. Nevertheless, the antibacterial effects of EGCG alone and in combination with different antibiotics have been intensively analysed against a number of bacteria including multidrug-resistant strains such as methicillin-resistant *Staphylococcus aureus* or *Stenotrophomonas maltophilia*. Furthermore, the catechin EGCG has antifungal activity against human-pathogenic yeasts like *Candida albicans*. Although the mechanistic effects of EGCG are not fully understood, there are results indicating that EGCG binds to lipid membranes and affects the folic acid metabolism of bacteria and fungi by inhibiting the cytoplasmic enzyme dihydrofolate reductase. This review summarizes the current knowledge and future perspectives on the antibacterial, antifungal and antiviral effects of the green tea constituent EGCG.

来源：British Journal of Pharmacology 期刊

发布日期:2013-03-20

全文链接:http://agri.ckcest.cn/ass/50041bc4-994c-41ba-bad8-320a07cb135b.pdf

2. Inhibitory effect of the green tea molecule EGCG against dengue virus infection（绿茶分子EGCG对登革热病毒感染的抑制作用）

简介：Dengue virus (DENV) infection is a major public health problem worldwide; however, specific antiviral drugs against it are not available. Hence, identifying effective antiviral agents for the prevention of DENV infection is important. In this study, we showed that the reportedly highly biologically active green-tea component epigallocatechin gallate (EGCG) inhibited dengue virus infection regardless of infecting serotype, but no or minimal inhibition was observed with other flaviviruses, including Japanese encephalitis virus, yellow fever virus, and Zika virus. EGCG exerted its antiviral effect mainly at the early stage of infection, probably by interacting directly with virions to prevent virus infection. Our results suggest that EGCG specifically targets DENV and might be used as a lead structure to develop an antiviral drug for use against the virus.

来源：Archives of Virology 期刊

发布日期:2018-06-20

全文链接:http://agri.ckcest.cn/ass/2c960e32-1334-4b99-a009-b6d2fd51dcfd.pdf

3. Epigallocatechin-3-gallate inhibits growth and induces apoptosis in esophageal cancer cells through the demethylation and reactivation of the p16 gene（EGCG通过p16基因的去甲基化和再活化抑制食管癌细胞的生长并诱导细胞凋亡）

简 介： The present study aimed to investigate the effect of treatment with epigallocatechin-3-gallate (EGCG) on the human esophageal cancer cell line ECa109 and elucidate the associated underlying mechanisms. ECa109 cells were cultured and treated with increasing concentrations of EGCG for various durations. Cell viability was evaluated using

the MTT assay and apoptosis was detected using flow cytometry. The methylation status of the cyclin-dependent kinase inhibitor 2A (p16) gene was analyzed using the methylation-specific polymerase chain reaction (PCR). p16 mRNA and protein expression was measured using reverse transcription-quantitative PCR and western blot analysis, respectively. The results of the present study demonstrated that, following treatment with EGCG, ECa109 cell viability was significantly decreased, while the rate of apoptosis was significantly increased ($P<0.01$), in a dose- and time-dependent manner. Following treatment of ECa109 cells with EGCG, p16 gene demethylation, and its mRNA and protein expression, were significantly increased compared with the untreated cells ($P<0.01$). EGCG may induce ECa109 cell apoptosis and inhibit cell growth through p16 gene demethylation, which restores its expression.

来源：Oncology Letters 期刊

发布日期:2017-07-10

全文链接:http://agri.ckcest.cn/ass/82442c5c-6230-4499-b866-5a32f77cebbe.pdf

4. Green Tea Catechin Dramatically Promotes RNAi Mediated by Low-Molecular-Weight Polymers（绿茶儿茶素对低分子量聚合物介导RNAi的促进作用）

简介：Cytosolic delivery is the major challenge that limits the clinical translation of siRNA-based therapeutics. Although thousands of polymers have been developed for siRNA delivery, the efficiencytoxicity correlation is unsatisfactory. Here, we report a facile strategy to fabricate coreshell-structured nanoparticles with robust siRNA delivery efficiency. The nanoparticle is prepared by entropy-driven complexation of siRNA with a green tea catechin to yield a negatively charged core, followed by coating low-molecular-weight polymers to form the shell. This supramolecular strategy facilitates the polymers condensing siRNA into uniform nanoparticles. The nanoparticle specifically down-regulates target genes *in vitro* and *in vivo*, and efficiently attenuates chronic intestinal inflammation in an inflammatory bowel disease model. Notably, the highly efficient nanoparticles are applicable for various polymers with different topologies and chemical compositions, providing a versatile technique to break down the efficiencytoxicity correlation of cationic polymers. The proposed strategy in this study permits the development of a promising platform for polymer-mediated siRNA delivery.

来源：ACS Central Science 期刊

发布日期:2018-09-19

全文链接:http://agri.ckcest.cn/ass/f2fe5302-aef3-481b-a35c-442b46f7aa90.pdf