# Isoprinosine for COVID 19 Treatment

## INTRODUCTION

Isoprinosine (Inosine pranobex) is an immunomodulatory antiviral drug that has been licensed since 1971 in several countries worldwide for the treatment of viral infections. It stimulates a nonspecific immune response that is independent of the specific viral antigen responsible for influenza-like-illness. In clinical studies, inosine pranobex has been shown to:[1]

1. Induce a type 1 T helper cell-type response in mitogen- or antigen-activated cells, and this response initiates T-lymphocyte maturation and differentiation and potentiates induced lymphoproliferative responses.
2. Modulates T-lymphocyte and natural killer cell cytotoxicity and CD8+ suppressor and CD4 + -helper cell functions and increases the number of immunoglobulin G and complement surface markers.
3. Increases cytokine interleukin (IL)-1 production and IL-2 production and upregulates the expression of the IL-2 receptor in vitro.

Currently, Isoprinosine is neither registered with National Pharmaceutical Regulatory Agency nor listed in the MOH formulary.[2,3]

This rapid literature review was conducted to determine the efficacy and safety of Isoprinosine in treating COVID-19.

## EVIDENCE on EFFECTIVENESS and SAFETY

There was no retrievable evidence on the effectiveness of Isoprinosine in treating COVID-19. However, there was one study comparing Isoprinosine and placebo in patients with acute respiratory viral infection.

Bejan et al. (2016) conducted a randomised control trial (RCT) on effectiveness and safety of Isoprinosine for the treatment of acute respiratory viral infection. A total of 463 subjects were randomly assigned to receive Isoprinosine (n=231) or placebo (n=232). The primary endpoint was time to resolution of all influenza-like symptoms present at baseline to none. Safety was evaluated through analysis of adverse events, vital signs, and physical examinations. They found that there was no significant difference in the time to resolution of all influenza-like symptoms between the two groups (HR=1.175, 95 % CI: 0.806, 1.714). In terms of safety, Isoprinosine was generally well tolerated, and no deaths were reported.[1]

Currently, there is no ongoing trial on Isoprinosine for treating COVID-19 but there are eight clinical trials on Isoprinosine for treating other conditions e.g. HIV, severe AIDS and lymph node diseases registered at ClinicalTrial.gov.[4]

## CONCLUSION

1. No retrievable evidence on the effectiveness of Isoprinosine in treating COVID-19. A recent RCT (2016) showed no statistical difference in the time to resolution all influenza-like symptoms between Isoprinosine and placebo in patients with acute respiratory infections.
2. To date, there is no ongoing clinical trial on Isoprinosine for treating COVID-19.

## REFERENCE


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Based on available evidence up to 3 April 2020


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**Disclaimer**: This rapid assessment was prepared to provide urgent evidence-based input during COVID-19 pandemic. The report is prepared based on information available at the time of research and a limited literature. It is not a definitive statement on the safety, effectiveness or cost effectiveness of the health technology covered. Additionally, other relevant scientific findings may have been reported since completion of this report.


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