

## **The Dawn of a New Era in Anti-COVID-19 Therapeutics Employing Pill Based Medications**

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### **Quotation**

“Both Monoclonal Antibody Therapy and the newly evolving oral medications are still not a substitute for vaccines in the prevention of COVID-19 infections”

### **Vaccines**

Currently vaccines (Pfizer mRNA vaccine, Moderna mRNA vaccine, Johnson and Johnson viral vector vaccine, and Oxford-AstraZeneca viral vector vaccine) offer the best form of protection and prevention against acquiring an infection from COVID-19 [1-4].

### **Monoclonal antibody therapy**

Monoclonal Antibody Therapy has been utilized in early onset cases (not yet requiring hospitalization) of COVID-19 infections (up to 10 days) when patients have displayed classical symptoms (3,4). More recently Monoclonal Antibody Therapy has been expanded to applications involving Post Vaccination Breakthrough cases [3].

Monoclonal antibody therapy, however, must be administered as either an IV infusion or via an injection. An IV infusion is time consuming, and requires an individual to have to visit the office of a physician or other healthcare facility requiring the services of a physician other healthcare professional to insert and monitor the IV infusion. If the monoclonal antibody is given in the form of an injection, a patient still must have this therapeutic administered by a physician or other healthcare profession at a medical office or other healthcare facility [3]. Thus, the principal drawbacks are: drawbacks are: a) process is timely, b) requires a visit to a doctor’s office or healthcare facility, c) require the services of a doctor or other healthcare professionals to administer the monoclonal antibody therapy, d) costly.

What is therefore required is a medication that did not require a visit to a doctor’s office or healthcare facility, or require a physician or healthcare professional to administer the therapy. These last points are extremely important especially when a person does not have access to such facilities. This is often the scenario as relates to COVID-19 patients living in remote rural areas. This is also the case in patients living in countries of the developing world Thus what is needed is a COVID-19 Therapeutic that can be taken orally in the form of a pill. Oral medications can be taken anywhere and do not need any specialized facility to administer these types of Medications.

### **Oral anti-covid-19 medication**

These new Anti-COVID-19 oral medications in pill form have been developed by the Merck and Pfizer Corporations. The Merck Oral Anti-COVID-19 Medication is called Molnupiravir, and the Pfizer Oral Anti-COVID-19 is called Paxlovid.

### Molnupiravir

Molnupiravir is an anti-viral agent that attacks RNA virus' such as COVID-19. This agent is called a "prodrug" and it is actually an artificial nucleoside N4-hydroxycytidine. The manner in which this anti-viral agent works its attack on COVID-19 is that it brings about "errors of copy" during RNA replications [5].

### Paxlovid

Paxlovid is an anti-viral agent which attacks the COVID-19 virus as an inhibitor of the CL protease (attaches to the catalytic cysteine residue known Cys145) [6].

Phase three trials revealed that when Paxlovid was utilized in combination with Ritonavir to treat COVID-19 infections there was efficacy level of 89% in cases severe cases of COVID-19 Infection 6). These initial studies are a new and welcome milestone in the treatment of COVID-19, and are the dawn of the era of Oral medication in treating COVID-19 infections.

Both Monoclonal Antibody Therapy and the newly evolving oral medications are still not a substitute for vaccines in the prevention of COVID-19 infections [3].

### Bibliography

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