



INFECTIOUS DISEASES

Method of treatment for human cytomegalovirus associated infections

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TRL scale



What it is needed for?

Human cytomegalovirus (HCMV) is a ubiquitous beta-herpesvirus that infects from 60% to nearly 80% of the human population worldwide and, although rarely, causes serious multi-organ infections, such as pneumonia, gastrointestinal diseases and retinitis, which can be fatal in immunosuppressed patients. Additionally, congenital HCMV is associated with neurodevelopmental defects including hearing loss and mental deficits.

To date, there are no vaccines available to prevent HCMV infections, and no drugs have been approved for the treatment of congenital infections. In addition, the drugs currently in use in adults have low bioavailability, non-negligible toxicity, limited efficacy and are subject to drug resistance.

This invention relates to the novel use of clinically approved antifungal compounds, such as posaconazole and isavuconazole, as antivirals to treat HCMV associated infections.

Advantages

- Clinically approved drugs;
- Effective therapeutic dosage in the same range as in use for fungal infections;
- A broad-spectrum drug: a HCMV strain and host cell line independent;
- A novel target – host rather than pathogen directed approach;
- Overcomes drug resistance to current therapeutics;
- Synergistic with drugs currently in use for treatment of HCMV.

Applications

A drug for prevention or treatment of human cytomegalovirus associated infections *per se* or in combinations with antivirals for use in patients including, but not limited, to the immune compromised ones undergoing hematopoietic stem cell transplantation.