A novel mutation in the UL54 gene of human cytomegalovirus isolates that confers resistance to foscarnet

Titre	A novel mutation in the UL54 gene of human cytomegalovirus isolates that confers resistance to foscarnet
Type de publication	Article de revue
Auteur	Ducancelle, Alexandra [1], Champier, Gaël [2], Alain, Sophie [3], Petit, Françoise [4], Sanson Le Pors, Marie-José [5], Mazeron, Marie-Christine [6]
Editeur	International Medical Press
Type	Article scientifique dans une revue à comité de lecture
Année	2006
Langue	Anglais
Date	2006
Numéro	4
Pagination	537-40
Volume	11
Titre de la revue	Antiviral Therapy
ISSN	1359-6535
Mots-clés	Antiviral Agents [7], Cytomegalovirus [8], Cytomegalovirus Infections [9], DNA-Directed DNA Polymerase [10], Drug Resistance, Viral [11], fibroblasts [12], Foscarnet [13], Humans [14], Microbial Sensitivity Tests [15], Mutation [16], Recombination, Genetic [17], Viral Proteins [18]
Résumé en anglais	Foscarnet is currently licensed for the treatment of human cytomegalovirus (HCMV) infection. Mutations proven to confer resistance to foscarnet have mostly been mapped to regions II, III and VI of the HCMV UL54-encoded DNA polymerase. We previously showed that sequential foscarnet-resistant HCMV isolates recovered from a patient with lymphoma had change N495K in region delta-C of the DNA polymerase. To evaluate the impact of change N495K on HCMV sensitivity to foscarnet, a recombinant HCMV strain carrying the mutation was produced by homologous recombination. The recombinant virus showed a 3.4-fold increase in foscarnet resistance, and remained sensitive to ganciclovir and cidofovir. In addition, the recombinant strain showed a reduction of infectious virus yield compared with its parent strain. Change N495K should be added to the list of mutations conferring resistance to foscarnet and be taken into account in the genotypic diagnosis of antiviral resistance.
URL de la notice	http://okina.univ-angers.fr/publications/ua18812 [19]
Lien vers le document	https://www.ncbi.nlm.nih.gov/pubmed/16856628 [20]
Titre abrégé	Antivir. Ther. (Lond.)
Identifiant (ID) PubMed	16856628 [21]

Liens
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