

SAMPLE REPORT



FINAL REPORT

TEST REQUEST: Antiviral resistance for human cytomegalovirus

TEST PERFORMED AT: Rega Institute for Medical Research (Laboratory of Virology and Chemotherapy, and Laboratory of Immunobiology)

DATE SAMPLE RECEIVED BY REGAVIR: 05/01/09

REPORT DATE: 03/02/09

Patient identification	Name (Last, First):	
	Date of birth:	<input type="checkbox"/> Male <input type="checkbox"/> Female
	Identification number:	
	Address:	

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Patient clinical information	Disease:
	Antiviral treatment received:
	Additional information:

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Specimen information	Original identification:
	RegaVir Identification:
	Date collected:
	Type:
	Additional information:

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Requesting doctor(s) / Laboratory	Name (Last, First):
	Hospital:
	Department:
	Address:
	e-mail:
	Tel. / Fax:

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TESTS

- 1) Genotyping of UL97 (protein kinase responsible for ganciclovir phosphorylation)
- 2) Genotyping of UL54 (viral DNA polymerase)

PROTOCOL

- 1) Isolation of viral DNA from the sample
- 2) Amplification of the UL97 and UL54 genes by PCR
- 3) Direct sequencing of the UL97 and UL54 genes
- 4) Sequence alignment (derived sequences of patient isolate were aligned with the strain AD-169 reference sequence)

RESULTS

Amino acid changes in UL97 protein kinase	
Related to genetic polymorphism (inter-strain variability)	Associated with resistance to ganciclovir
N68D	A594V
I244V	
H469Y	

Amino acid changes in UL54 (DNA polymerase)	
Related to genetic polymorphism (inter-strain variability)	Associated with resistance to antiviral drugs
D165N	None
A885T	
S897L	
A1122T	

CONCLUSIONS AND COMMENTARY

- 1) The isolate is resistant to ganciclovir due to the presence of the A594V amino acid change in the UL97 protein kinase.
- 2) Amino acid changes known to be associated with resistance to antiviral drugs in the UL54 (viral DNA polymerase) were not detected. However, a D165N change was observed that is not known to be linked to inter-strain variability or resistance to antiviral drugs. The 165 amino acid position is not located in the catalytic subunit of the viral DNA polymerase and most probably this change may not affect the function of the enzyme.
- 3) The isolate should remain sensitive to foscavir and cidofovir.

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