



Alphavirus and Flavivirus

Laboratory case definition

The Public Health Laboratory Network (PHLN) has developed standard case definitions for the diagnosis of key diseases in Australia. This document contains the laboratory case definition for Alphavirus and Flavivirus.

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Condition	PHLN Parent Document Number	Definitive Criteria	Suggestive Criteria
Alphavirus infection (Ross River virus [RRV], Barmah Forest virus [BFV] and Sindbis virus [SIN])	0013	Alphavirus other than Sindbis 1. Isolation of alphavirus from clinical material; OR 2. Detection of specific alphavirus by NAT; OR 3. IgG seroconversion to specific alphavirus; OR 4. Significant increase in IgG level or titre to specific alphavirus.	Alphavirus other than Sindbis 1. Detection of IgM to specific alphavirus.
		Sindbis 1. Isolation of SIN from clinical material; OR 2. Detection of SIN by NAT; OR	Sindbis 1. Detection of IgM to SIN but not RRV or BFV.

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		<ol style="list-style-type: none"> 3. Seroconversion or significant increase in IgG level or titre to SIN confirmed by neutralisation titres or other specific serology; OR 4. IgG seroconversion to SIN but not RRV or BFV; OR 5. Significant increase in IgG level or titre to SIN but not RRV or BFV. 	
<p>Flavivirus infection</p> <p>(Dengue [DEN], Murray Valley encephalitis [MVE], Japanese encephalitis [JE], Kunjin [KUN] and yellow fever [YF])</p>	<p>(yet to be written)</p>	<ol style="list-style-type: none"> 1. Isolation of flavivirus from clinical material; OR 2. Detection of viral RNA in clinical material; OR 3. Seroconversion or significant increase in IgG level or titre to a flavivirus <ul style="list-style-type: none"> • Specific virus can be assigned if the IgG is shown to be specific to a single virus, by neutralisation or other specific tests • Unspecified flavivirus infection if the IgG cannot be shown to be specific to a single virus. 	<ol style="list-style-type: none"> 1. Detection of IgM to a single flavivirus <p>Dengue</p> <ul style="list-style-type: none"> • Specific virus can be assigned based on detection of DEN IgM alone. <p>Other flaviviruses</p> <ul style="list-style-type: none"> • Specific virus can be assigned if the IgM to a single flavivirus is detected in the absence of IgM to other likely flaviviruses provided that there is a suitable clinical and exposure history. Where MVE, KUN or JE is suspected, IgM tests should be done for antibody to DEN, MVE, KUN and JE as a minimum. Where YF is suspected IgM tests should be done for YF,

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			<p>KUN, DEN and JE as a minimum.</p> <ul style="list-style-type: none"> • Unspecified flavivirus infection if IgM is detected against more than one virus or the full range of flaviviruses has not been tested, provided that there is a suitable clinical and exposure history.