

Alternative source for NAIs

RIVM, Bilthoven, Netherlands; Adam Meijer

WHO CC, Tokyo, Japan; Emi Takashita

WHO CC, Melbourne, Australia; Aeron Hurt

Neuraminidase inhibitors

Antiviral	Company	MTA	Quantity	Price (from NL)
Oseltamivir	Roche	Yes		Free of charge
	SRP	No	10 mg 20mg 100 mg	USD 100 USD 200 USD 350
Zanamivir	GSK	Yes		Free of charge
	SRP	No	10 mg 100 mg 1 g	USD 100 USD 250 USD 900
Peramivir	BioCryst	Yes		Free of charge
	SRP	No	10 mg 100 m 1 g	USD 100 USD 350 USD 1,000
Laninamivir	Daiichi Sankyo	Yes		Free of charge
	SRP	No	1 mg 2 mg 5 mg	USD 800 USD 1,200 USD 2,300

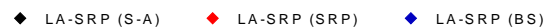
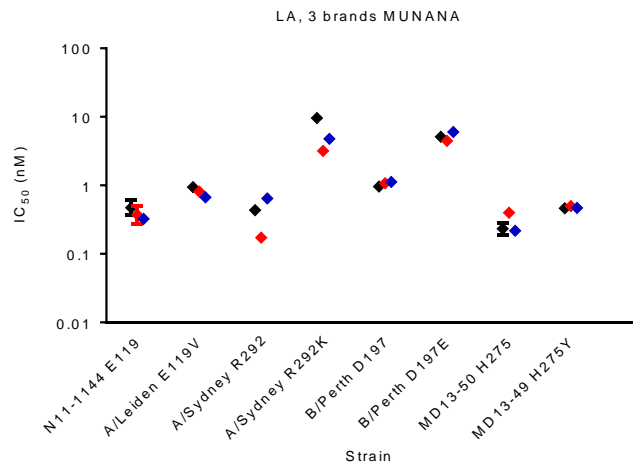
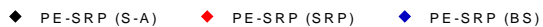
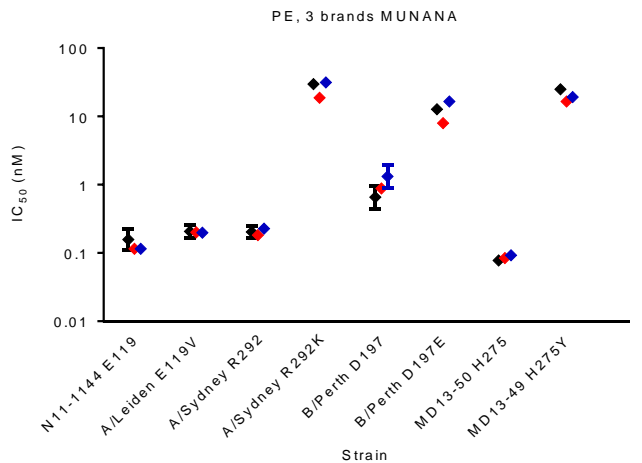
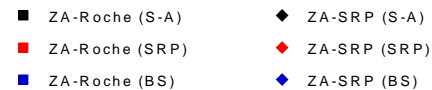
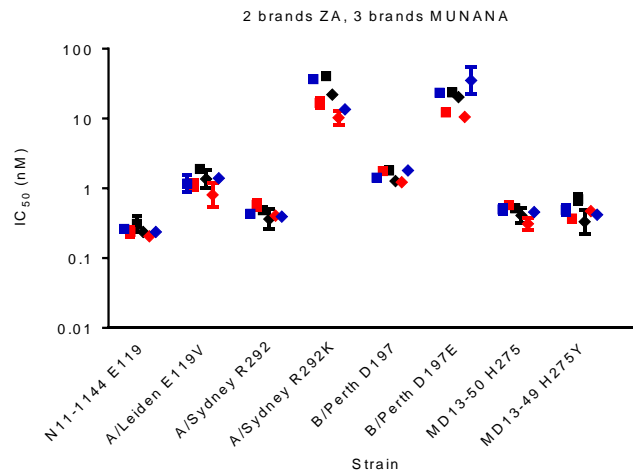
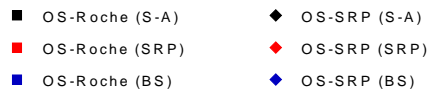
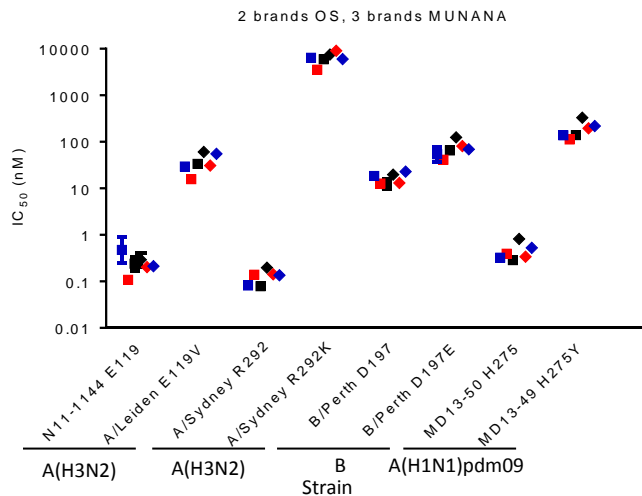
Sequoia Research Products Ltd. (SRP): shipping USD 54 US and Europe; ROW USD 80

Used assays

- All tests performed by fluorescence-based neuraminidase inhibition assay

RIVM, IC₅₀s reference strains, mean ± 1SD (n=4)

labels: <NAI>-<brand NAI > <(brand MUNANA)>



OS = oseltamivir; ZA = zanamivir; PE = peramivir; LA= laninamivir
 S-A = Sigma Aldrich; SRP = Sequoia Research Products Ltd.; BS = Biosynth AG

WHO CC Tokyo, oseltamivir

Reference Virus	Type/Subtype	Genotype	IC ₅₀ (nM)	
			Oseltamivir Roche	Oseltamivir Sequoia
A/Perth/261/2009	A(H1N1)pdm09	H275Y	263.25	359.15
A/Perth/265/2009	A(H1N1)pdm09	WT	0.36	0.65
A/Fukui/45/2004	A(H3N2)	E119V	65.17	102.68
A/Fukui/20/2004	A(H3N2)	WT	0.19	0.24
B/Perth/211/2001	B Yamagata	D197E	198.36	277.18
B/Perth/211/2001	B Yamagata	WT	12.25	21.92

Viruses were examined by fluorescence-based NA-Fluor assay.

WHO CC Tokyo, peramivir

Reference Virus	Type/Subtype	Genotype	IC ₅₀ (nM)	
			Peramivir BioCryst	Peramivir Sequoia
A/Perth/261/2009	A(H1N1)pdm09	H275Y	39.16	36.83
A/Perth/265/2009	A(H1N1)pdm09	WT	0.07	0.07
A/Fukui/45/2004	A(H3N2)	E119V	0.35	0.47
A/Fukui/20/2004	A(H3N2)	WT	0.42	0.33
B/Perth/211/2001	B Yamagata	D197E	15.77	19.27
B/Perth/211/2001	B Yamagata	WT	0.27	0.34

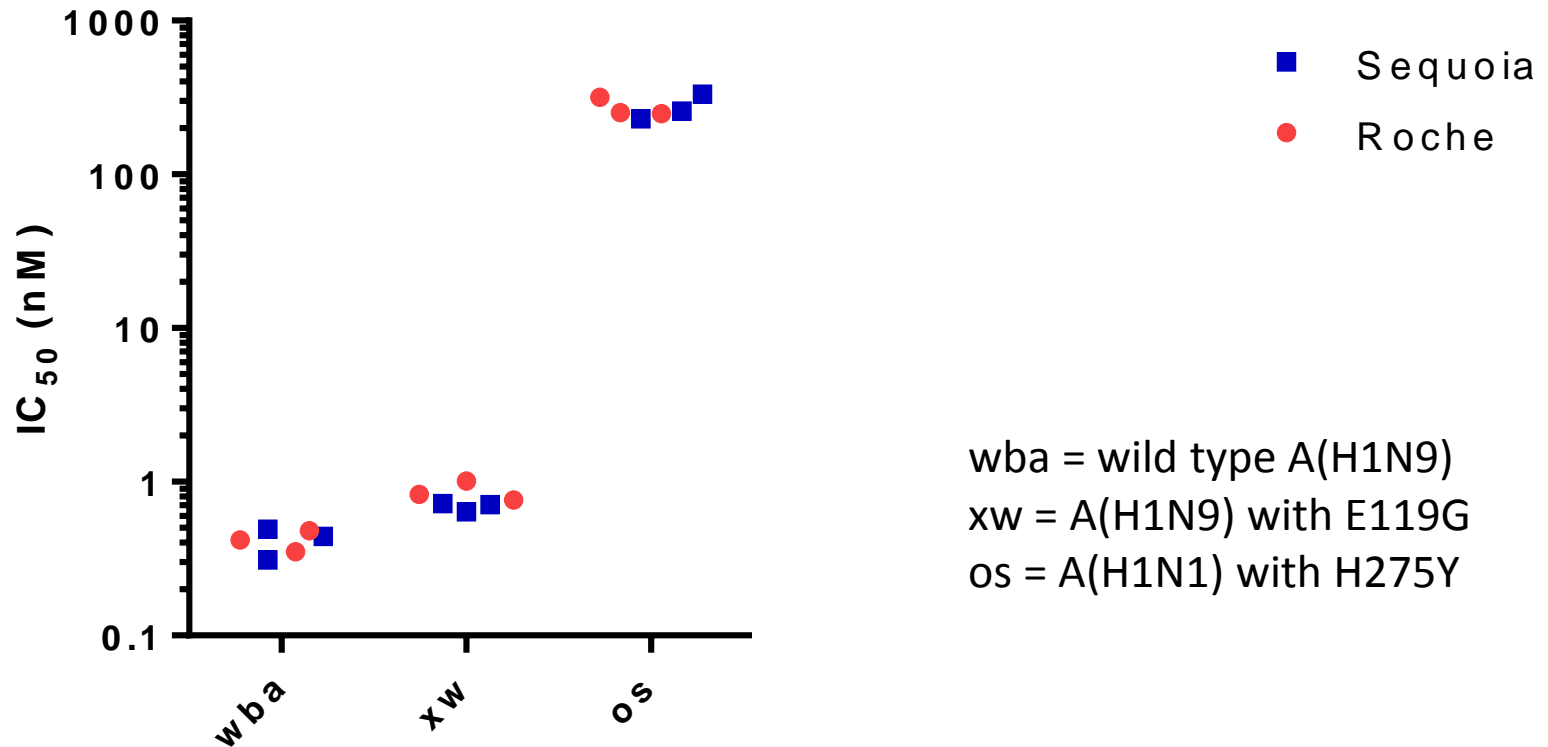
Viruses were examined by fluorescence-based NA-Fluor assay.

WHO CC Tokyo, zanamivir

Reference Virus	Type/Subtype	Genotype	IC ₅₀ (nM)	
			Zanamivir GSK	Zanamivir Sequoia
A/Perth/261/2009	A(H1N1)pdm09	H275Y	0.21	0.38
A/Perth/265/2009	A(H1N1)pdm09	WT	0.23	0.36
A/Fukui/45/2004	A(H3N2)	E119V	1.14	1.15
A/Fukui/20/2004	A(H3N2)	WT	1.01	0.85
B/Perth/211/2001	B Yamagata	D197E	3.11	3.14
B/Perth/211/2001	B Yamagata	WT	0.65	0.78

Viruses were examined by fluorescence-based NA-Fluor assay.

WHO CC Melbourne, oseltamivir



Conclusions

- IC₅₀s of NI, RI and HRI viruses determined for oseltamivir, zanamivir and peramivir were similar for the different sources of the NAIs
- IC₅₀s of NI, RI and HRI viruses determined for laninamivir from Sequoia were comparable with those reported for the ISIRV-AVG panel with laninamivir from Daiichi Sankyo (<http://www.isirv.org/site/index.php/reference-panel>)

Contact information

- Sequoia Research Products Ltd., United Kingdom: <http://www.seqchem.com>