Alternative sources MUNANA

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WHO CC, Tokyo, Japan; Emi Takashita
MUNANA

• Prices from NL (July 2014)

• Golden Standard
  – Sigma-Aldrich: 25 mg for 1,125 Euros

• Alternatives
  – Biosynth AG: 100 mg for 200 Euros exclusive Taxes and 20 Euros shipping costs
  – Sequoia Research Products Ltd: 100 mg for 300 Euros
Used assays

• All tests performed by fluorescence-based neuraminidase inhibition assay
RIVM, virus dilutions for 50 RFU; 3 brands of MUNANA tested

Reference viruses

Virus isolate

A(H3N2)

B/Yam

B/Vic

A(H1N1)pdm09

Sigma-Aldrich

SRP

Biosynth
RIVM, IC$_{50}$s 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 = Sequioa Research Products Ltd.; BS = Biosynth AG
WHO CC Melbourne, comparison of virus NA activity curves using two different MUNANA sources

wba = wild type A(H1N9)  
xw = A(H1N9) with E119G  
os = A(H1N1) with H275Y
WHO CC Melbourne, comparison of IC$_{50}$ values using two MUNANA sources

**Zanamivir**

- Sigma
- Biosynth

**Oseltamivir**

- Sigma
- Biosynth

**Peramivir**

- Sigma
- Biosynth

**Laninamivir**

- Sigma
- Biosynth
## WHO CC Tokyo, MUNANA

<table>
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<th>Reference Virus</th>
<th>Type/Subtype</th>
<th>Genotype</th>
<th>Oseltamivir IC50 (nM)</th>
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Viruses were examined by fluorescence-based NA-Fluor assay.
Conclusions

• MUNANA from Sigma-Aldrich and Biosynth performed similarly in determining neuraminidase activity

• A larger amount of virus was needed to generate the same level of RFUs when using MUNANA from Sequoia compared to MUNANA from Sigma-Aldrich and Biosynth

• IC_{50}s of NI, RI and HRI viruses determined with the three MUNANA brands were similar
Contact information

• Sequoia Research Products Ltd., United Kingdom: http://www.seqchem.com

• Biosynth AG, Switzerland: http://www.biosynth.com