

Table S11. List of top 50 compounds achieved by CMap.

| Rank | Cmap name | Mean | N | Enrichment | P | Specificity | Percent non-null | Exclusion reason | Cell viability \pm SD (%) |
|------|--------------------------------|--------|---|------------|---------|-------------|------------------|---|-----------------------------|
| 1 | PHA-00816795 | -0.623 | 2 | -0.884 | 0.0267 | 0.0102 | 100 | Not commercially available | ND |
| 2 | doxepin | -0.548 | 3 | -0.855 | 0.00609 | 0 | 100 | Cell viability < 90 % | 82.0 \pm 2.6 |
| 3 | ursodeoxycholic acid | -0.544 | 3 | -0.839 | 0.00843 | 0.0051 | 100 | Anti-influenza virus activity has been reported [1] | ND |
| 4 | nipecotic acid | -0.537 | 4 | -0.833 | 0.00141 | 0 | 100 | / | 105.3 \pm 5.7 |
| 5 | hydrocortisone | -0.59 | 3 | -0.8 | 0.01634 | 0.0263 | 100 | Anti-influenza virus activity has been reported [2] | ND |
| 6 | 16,16-dimethylprostaglandin E2 | -0.516 | 3 | -0.794 | 0.01771 | 0.0207 | 100 | Not commercially available | ND |
| 7 | tobramycin | -0.539 | 4 | -0.793 | 0.00368 | 0 | 100 | Anti-influenza virus activity has been reported [3] | ND |
| 8 | difenidol | -0.637 | 3 | -0.783 | 0.02097 | 0.0111 | 100 | / | 96.0 \pm 7.3 |
| 9 | metaraminol | -0.576 | 4 | -0.781 | 0.00477 | 0.0112 | 100 | / | 116.3 \pm 1.4 |
| 10 | liothyronine | -0.587 | 4 | -0.776 | 0.00513 | 0.0104 | 100 | Anti-influenza virus activity has been reported [4] | ND |
| 11 | CP-645525-01 | -0.452 | 3 | -0.77 | 0.0249 | 0.0821 | 100 | Not commercially available | ND |
| 12 | Prestwick-860 | -0.532 | 4 | -0.769 | 0.00571 | 0.0053 | 100 | Not commercially available | ND |
| 13 | cetirizine | -0.654 | 4 | -0.751 | 0.00774 | 0.0338 | 100 | / | 108.8 \pm 3.5 |
| 14 | aztreonam | -0.445 | 5 | -0.747 | 0.00198 | 0 | 100 | / | 113.9 \pm 2.1 |
| 15 | doxazosin | -0.564 | 4 | -0.747 | 0.00814 | 0.0205 | 100 | Cell viability < 90 % | 58.6 \pm 7.5 |
| 16 | chrysin | -0.421 | 3 | -0.739 | 0.03656 | 0.0758 | 66 | / | 91.8 \pm 3.2 |
| 17 | sulfinpyrazone | -0.299 | 4 | -0.737 | 0.00957 | 0.0205 | 75 | / | 97.0 \pm 4.6 |
| 18 | propylthiouracil | -0.399 | 4 | -0.724 | 0.01176 | 0.0313 | 75 | / | 98.6 \pm 0.7 |
| 19 | pentoxifyverine | -0.402 | 4 | -0.721 | 0.01239 | 0.0254 | 75 | / | 95.3 \pm 7.8 |
| 20 | betahistine | -0.435 | 4 | -0.718 | 0.01281 | 0.0229 | 75 | / | 96.7 \pm 4.5 |
| 21 | ketorolac | -0.434 | 4 | -0.716 | 0.01323 | 0.0309 | 75 | / | 95.3 \pm 3.2 |
| 22 | omeprazole | -0.569 | 4 | -0.716 | 0.01325 | 0.0542 | 75 | Anti-influenza virus activity has been reported [5] | ND |
| 23 | proxiphylline | -0.46 | 4 | -0.71 | 0.01466 | 0.0644 | 75 | / | 106.9 \pm 1.7 |
| 24 | pyrazinamide | -0.455 | 4 | -0.706 | 0.01546 | 0.027 | 75 | / | 100.0 \pm 3.7 |
| 25 | zoxazolamine | -0.294 | 4 | -0.695 | 0.01844 | 0.0455 | 50 | Anesthetic agent | ND |
| 26 | levonorgestrel | -0.547 | 6 | -0.693 | 0.00209 | 0.0273 | 83 | / | 95.6 \pm 1.5 |
| 27 | sulfamethoxypyridazine | -0.443 | 5 | -0.687 | 0.00685 | 0.0297 | 80 | Anti-influenza virus activity has been reported [6] | ND |
| 28 | Prestwick-675 | -0.377 | 4 | -0.687 | 0.02067 | 0.165 | 75 | Not commercially available | ND |
| 29 | glibenclamide | -0.47 | 4 | -0.683 | 0.02216 | 0.0503 | 75 | / | 98.1 \pm 2.5 |
| 30 | dextromethorphan | -0.511 | 4 | -0.676 | 0.02459 | 0.066 | 75 | Anti-influenza virus activity has been reported [7] | ND |
| 31 | procaine | -0.27 | 5 | -0.673 | 0.00869 | 0.066 | 60 | Anesthetic agent | ND |
| 32 | iopanoic acid | -0.402 | 4 | -0.672 | 0.02598 | 0.03 | 75 | Contrast agent | ND |
| 33 | delsoline | -0.479 | 4 | -0.669 | 0.02707 | 0.0509 | 75 | / | 90.4 \pm 3.0 |
| 34 | tiabendazole | -0.34 | 4 | -0.665 | 0.02847 | 0.0631 | 75 | Cell viability < 90 % | 77.4 \pm 4.1 |
| 35 | imipramine | -0.268 | 4 | -0.658 | 0.03143 | 0.0584 | 50 | Cell viability < 90 % | 77.1 \pm 3.6 |

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|----|---------------------|--------|---|--------|---------|--------|----|---|------------|
| 36 | cefalotin | -0.426 | 4 | -0.657 | 0.03161 | 0.0452 | 75 | Cell viability < 90 % | 78.9 ± 5.5 |
| 37 | pyrantel | -0.364 | 5 | -0.656 | 0.01164 | 0.027 | 60 | / | 90.3 ± 0.9 |
| 38 | pronetalol | -0.416 | 4 | -0.653 | 0.03364 | 0.035 | 75 | / | 90.0 ± 4.8 |
| 39 | etamsylate | -0.468 | 4 | -0.65 | 0.03529 | 0.099 | 75 | Cell viability < 90 % | 89.4 ± 5.3 |
| 40 | thalidomide | -0.384 | 7 | -0.646 | 0.00204 | 0.0107 | 71 | Teratogenic or highly toxic compounds | ND |
| 41 | diltiazem | -0.515 | 5 | -0.646 | 0.01374 | 0.0469 | 80 | Anti-influenza virus activity has been reported [1] | ND |
| 42 | nifurtimox | -0.326 | 4 | -0.646 | 0.03728 | 0.0833 | 50 | / | 94.0 ± 3.8 |
| 43 | roxithromycin | -0.437 | 4 | -0.646 | 0.03766 | 0.1222 | 75 | Anti-influenza virus activity has been reported [1] | ND |
| 44 | doxylamine | -0.454 | 5 | -0.642 | 0.01466 | 0.1123 | 80 | Anti-influenza virus activity has been reported [8] | ND |
| 45 | picrotoxinin | -0.463 | 4 | -0.642 | 0.03917 | 0.0221 | 75 | Teratogenic or highly toxic compounds | ND |
| 46 | gelsemine | -0.217 | 4 | -0.641 | 0.03965 | 0.0585 | 50 | Teratogenic or highly toxic compounds | ND |
| 47 | aminohippuric acid | -0.382 | 4 | -0.638 | 0.04152 | 0.0926 | 50 | Diagnostic agent | ND |
| 48 | mepenzolate bromide | -0.493 | 5 | -0.637 | 0.01616 | 0.0124 | 80 | Cell viability < 90 % | 77.8 ± 4.6 |
| 49 | R-atenolol | -0.378 | 4 | -0.637 | 0.04201 | 0.0265 | 75 | Cell viability < 90 % | 78.9 ± 2.8 |
| 50 | canrenoic acid | -0.391 | 4 | -0.636 | 0.04255 | 0.0497 | 75 | Cell viability < 90 % | 88.5 ± 6.1 |

The 10 compounds in orange have been reported about their anti-influenza virus activities previously.

The 19 compounds in green were examined for their effects on IAV infection subsequently.

Cytotoxicities of the compounds were tested at the concentration of 30 µM.

The data are represented as the mean ± SD (n = 3).

/, not applicable.

ND, not detected.

Supplemental References

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