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2 **S2 Table. The 42 hits identified by screening 1,585 approved drugs with the HCA.**

| Name | Effect HCA at 10 μ M [% inhibition] | Effect on viability at 10 μ M [% reduction] | IC50 HCA [nM] | IC50 nuclear count [nM] |
|------------------------------|---|---|---------------|-------------------------|
| Camptothecine (S+) | 105 | 5 | 41 | >25,000 |
| Proscillaridin A | 101 | 12 | 1 | >25,000 |
| Carfilzomib (PR-171) | 100 | 52 | 4 | 20,100 |
| Ouabain | 100 | 15 | 12 | >25,000 |
| Lanatoside C | 100 | 19 | 35 | >25,000 |
| Emetine | 100 | 25 | 71 | >25,000 |
| Digoxigenin | 100 | 11 | 220 | >25,000 |
| Alprostadil | 97 | -19 | 9 | >25,000 |
| Digitoxigenin | 93 | 22 | 39 | >25,000 |
| Digoxin | 87 | 19 | 10 | >25,000 |
| Daunorubicin hydrochloride | 73 | 14 | 270 | 20,200 |
| Cycloheximide | 91 | 27 | 109 | >25,000 |
| Mitoxantrone dihydrochloride | 101 | 31 | 620 | 19,000 |
| Doxorubicin hydrochloride | 64 | 20 | 450 | >25,000 |
| Topotecan | 88 | 8 | 970 | >25,000 |
| Dasatinib (BMS-354825) | 89 | -10 | 1,020 | >25,000 |
| Epirubicin hydrochloride | 93 | 28 | 1,070 | 18,000 |
| Haloprogin | 77 | 61 | 1,300 | 4,500 |
| Crizotinib (PF-02341066) | 63 | 66 | 1,500 | 16,000 |
| Thiostrepton | 85 | -11 | 2,200 | 7,600 |
| Dabrafenib (GSK2118436) | 56 | 9 | 2,900 | >25,000 |
| Azacytidine-5 | 97 | -4 | 3,200 | >25,000 |
| Etravirine (TMC125) | 100 | 29 | 3,900 | >25,000 |
| Nifedipine | 79 | 29 | 4,700 | 7,300 |
| Vorinostat | 101 | 24 | 5,400 | >25,000 |
| Benzethonium chloride | 78 | 72 | 5,500 | 13,000 |
| Chlorhexidine | 80 | 24 | 5,800 | 12,000 |
| Dequalinium dichloride | 67 | 39 | 5,800 | >25,000 |
| Bazedoxifene HCl | 89 | 55 | 5,800 | 9,070 |
| Chloroxine | 80 | 14 | 5,900 | >25,000 |
| Aminacrine | 97 | 2 | 6,000 | 24,000 |
| Halofantrine hydrochloride | 101 | 29 | 6,020 | 5,200 |
| Hexachlorophene | 93 | 8 | 6,700 | >25,000 |
| Fenbendazole | 76 | 51 | 6,700 | 5,800 |

| | | | | |
|---------------------------------|-----|----|-------|---------|
| Astemizole | 105 | 49 | 6,800 | 8,300 |
| Ethacridine lactate monohydrate | 73 | -9 | 7,500 | >25,000 |
| PCI-32765 (Ibrutinib) | 67 | 22 | 7,600 | >25,000 |
| Cilnidipine | 92 | 15 | 8,040 | >25,000 |
| Indatraline hydrochloride | 67 | 20 | 8,060 | 11,000 |
| Thiethylperazine dimalate | 76 | 34 | 8,500 | 13,000 |
| Estradiol Valerate | 66 | 65 | 9,700 | 11,000 |
| GBR 12909 dihydrochloride | 56 | 13 | 9,900 | 12,000 |

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