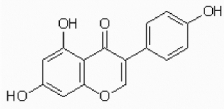
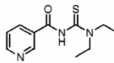
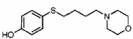
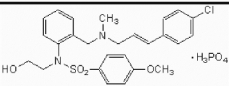
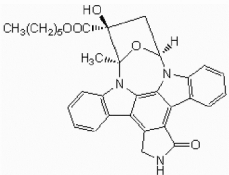
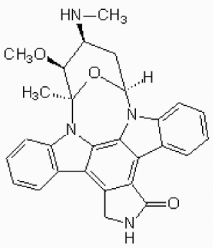


Table S4. Small molecule compounds assayed for which phenotypes are not shown

| Biochemical Compounds assayed | Commercial supplier | Structure |
|-------------------------------|---------------------|---|
| Genistein | Calbiochem |  |
| 5150905 | Chembridge |  |
| 8160304 | Chembridge |  |
| KN-93 | Calbiochem |  |
| KT5720 | Calbiochem |  |
| staurosporine | Calbiochem |  |

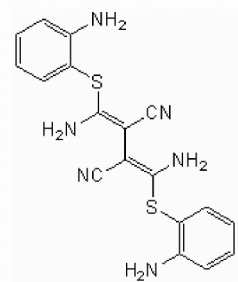
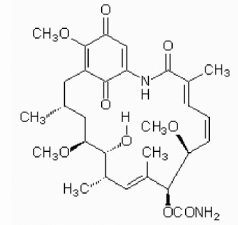
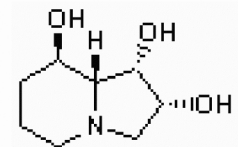
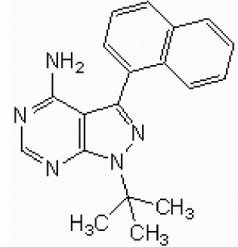
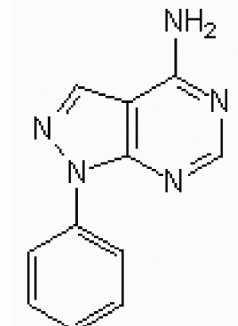
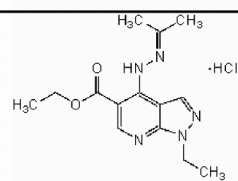
| | | |
|--------------------------|------------|---|
| UO126 | Calbiochem |  |
| Geldanamycin | Calbiochem |  |
| Swainsonine | Calbiochem |  |
| PP1 | Calbiochem |  |
| PP3 | Calbiochem |  |
| Etazolate, hydrochloride | Calbiochem |  |

Table S5. Small molecule compound 31B4 assayed at the 8–16 cell stage showing phenotypic response to compound concentration

| Compound Concentration | Frog | Phenotypic score | | | | |
|------------------------|------|------------------|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 2µg/ml | A | 58 | 42 | | | |
| | B | 79 | 21 | | | |
| | E | 52 | 48 | | | |
| | F | 83 | 17 | | | |
| 200ng/ml | A | 11 | 28 | 61 | | |
| | B | | | 9 | 76 | 15 |
| | E | | 47 | 53 | | |
| | F | | 10 | 90 | | |
| 2ng/ml | A | | | | 21 | 79 |
| | B | | | | 13 | 87 |
| | E | | | 46 | 54 | |
| | F | | | 16 | 84 | |
| 200pg/ml | A | | | | 12 | 88 |
| | B | | | | 5 | 95 |
| | E | | | | 20 | 80 |
| | F | | | | 7 | 93 |
| Negative Control | A | | | | 5 | 95 |
| | B | | | | 5 | 95 |
| | E | | | | 4 | 96 |
| | F | | | | 6 | 94 |

Table S6. Small molecule compound 31B4 assayed at stage 15 showing phenotypic response to compound concentration

| Compound Concentration | Frog | Phenotypic score | | | | |
|------------------------|------|------------------|----|----|----|----|
| | | 1 | 2 | 3 | 4 | 5 |
| 2µg/ml | C | 83 | 17 | | | |
| | D | 86 | 14 | | | |
| | E | 53 | 47 | | | |
| | F | 83 | 17 | | | |
| 200ng/ml | C | | 19 | 81 | | |
| | D | | 30 | 70 | | |
| | E | | 50 | 50 | | |
| | F | | 22 | 78 | | |
| 2ng/ml | C | | | 31 | 69 | |
| | D | | | 31 | 69 | |
| | E | | | 30 | 70 | |
| | F | | | 58 | 42 | |
| 200pg/ml | C | | | | 15 | 85 |
| | D | | | | 22 | 78 |
| | E | | | | 12 | 88 |
| | F | | | | 24 | 76 |
| Negative Control | C | | | | 10 | 90 |
| | D | | | | 12 | 88 |
| | E | | | | 5 | 95 |
| | F | | | | 18 | 82 |