Table S1. Phosphoinositide attenuation in *Dictyostelium* by VPA and other compounds

| Chemical category | Chemical (common name) | Chemical (IUPAC nomenclature) | PIP Level (% control) | s.d. |
|-------------------|------------------------|-------------------------------|-----------------------|------|
| valproic acid (VPA) | 2-propylpentanoic acid | 32.0 | 8.7 |
| **Straight-chain acids** | | | | |
| valeric acid | pentanoic acid | 66.9 | 7.8 |
| n-caproic acid | hexanoic acid | 49.2 | 10.1 |
| enanthoic acid | heptanoic acid | 31.2 | 5 |
| caprylic acid | octanoic acid | 16.7 | 3.4 |
| pelargonic acid | nonanoic acid | 8 | 1.7 |
| capric acid | decanoic acid | 12.9 | 1.4 |
| Lauric acid | dodecanoic acid | 42 | 3 |
| Margaric acid | heptadecanoic acid | 92.3 | 2.8 |
| **4-6 carbon backbone acids** | | | | |
| Isovaleric Acid | 3-methylbutanoic acid | 99.1 | 11.4 |
| TBA | tert-butylacetic acid | 21.4 | 4.1 |
| PIA | propylisopropylacetic acid | 15.4 | 2.2 |
| DIA | diisopropylacetic acid | 18.6 | 4.5 |
| 2M2P | 2-methyl-2-pentenoic acid | 14.8 | 3.8 |
| | 2-ethyl-4-methylpentanoic acid | 54.8 | 0.1 |
| | 4-methylhexanoic acid | 68 | 3 |
| | S-2-pentyl-4-pentyloic acid | 82 | 7 |
| | 2-methylhexanoic acid | 68.1 | 14.8 |
| | 5-methylhexanoic acid | 7.2 | 0.7 |
| | 2-ethylhexanoic acid | 22.2 | 5.3 |
| **7 - 9 carbon backbone acids** | | | | |
| 2-methylheptanoic acid | 16.1 | 6.4 |
| 4-methyloctanoic acid | 12 | 1.3 |
| 4-ethyl octanoic acid | 13.2 | 1.8 |
| 4-methyl nonanoic acid | 45 | 16 |
| **Other acids** | | | | |
| TMCA | tetramethycyclopropane carboxylic acid | 33.9 | 7.7 |
| **Amides** | | | | |
| valpromide (VPD) | 2-propylpentamide | 69.3 | 13.3 |
| TMCD | tetramethycyclopropane-carboxamide | 72.5 | 7.2 |
| MTMCD | N-methyl-tetramethycyclopropane carboxamide | 50.8 | 6.9 |
| PID | propylisopropylacetamide | 59 | 12.2 |
| | Tert-butyl amide | 47.6 | 12 |
| | n-propyl 2-methylvalerate | 121 | 13.6 |
| **Aldehydes** | | | | |
| valeraldehyde | octanal | 260 | 199 |
| | nonanal | 99 | 13 |
| **Alcohols** | | | | |
| 2-butyl-1-octanol | 93 | 53 |
| 2-hexyl-1-decanol | 191 | 38 |
Compounds are divided by backbone size, straight or branched, and derivitization. Common names and IUPAC nomenclature is included. Data are provided for residual PIP production (± s.d.) in the presence of 0.5 mM treatment over a 9 minute period. Each value represents triplicate experiments in duplicate.