**a**

|                | Control | OA 1070722 | AR-A014418 |
|----------------|---------|-------------|-------------|
| DA9            |         |             |             |
| P-Tau (170 kDa) oligomer |         |             |             |
| Tau (46 kDa - monomeric) |         |             |             |
| CP13 [pSer202] |         |             |             |
| P-Tau (110 kDa - oligomeric) |         |             |             |
| P-Tau (240 kDa - oligomeric) |         |             |             |
| PHF-1 [pSer396/pSer404] |         |             |             |
| P-tau-Ser202) |         |             |             |
| Intact (240 kDa) |         |             |             |
| αII-Spectrin   |         |             |             |
| SBP150kDa/145kDa |         |             |             |
| SBP120kDa      |         |             |             |
| β-actin        |         |             |             |
| 43 kDa         |         |             |             |

**b**

- **DA9** (170k)
  - **Total Tau/β-actin**
    - Control: 1.00
    - OA 1070722: 1.00
    - AR-A014418: 1.00
  - **P-Tau**
    - Control: 0.20
    - OA 1070722: 0.20
    - AR-A014418: 0.20
  - **P-tau-Ser202)**
    - Control: 0.60
    - OA 1070722: 0.60
    - AR-A014418: 0.60

- **CP13** (110k)
  - **P-Tau**
    - Control: 0.50
    - OA 1070722: 0.50
    - AR-A014418: 0.50
  - **P-tau-Ser202)**
    - Control: 0.50
    - OA 1070722: 0.50
    - AR-A014418: 0.50

- **PHF-1** (240k)
  - **P-tau-Ser396/Ser404)**
    - Control: 0.50
    - OA 1070722: 0.50
    - AR-A014418: 0.50
S2 Fig. Effect of additional two GSK-3 protein kinase inhibitors on OA-induced tau hyperphosphorylation and oligomerization in N2a cells (with cell-death linked protease inhibitors (calpain/caspase inhibitors). A continuation of Fig2 experiment is presented to include two other potent GSK-3 kinase inhibitors, AR and A-107. The specific experimental treatments are as described in materials and methods. (a). Immunoblots of N2a cells extracted protein using p-tau antibodies (CP13 and PHF-1), total tau (DA9), and αII-Spectrin. αII-Spectrin was probed to assess cell apoptosis monitored SBDP150/145 kDa and SBDP120 kDa. Kinase inhibition of phosphorylation and oligomerization was monitored by evaluating the levels of p-tau antibodies and total tau (blue arrows) and non-phospho tau (black arrows). For all conditions, S+Z were added for 1h before the treatments. (b). Immunoblot quantifications and statistical analysis. All data are normalized to β-actin and are expressed as a percentage of control. Data are presented as ± SEM for n=3. Statistical analysis was performed with one-way ANOVA. For multiple comparisons, one-way ANOVA followed by the Bonferroni’s post-hoc test was performed. *p<0.05, **p<0.01, ***p<0.001, ****p<0.0001 and ns: non-significant.