S-Table 1. The reported anti-proliferative activities of HA1 against cancer cell lines.

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| --- | --- | --- | --- |
| Types of cancer cells | Names | IC50 (μM) | References |
| Liver cancer cells | SMMC-7721 | 2.8 ± 0.12 | Fang et al., 2016 |
| 5.68 ± 1.95 | Wang et al., 2018 |
| 3.07 ± 0.09 | Wang et al., 2017 |
| 2.9 ± 0.1 | Guan et al., 2020 |
| Bel-7402 | 4.57 ± 0.19 | Wang et al., 2017 |
| 13.07 ± 2.65 | Wang et al., 2018 |
| HepG2 | 4.21 ± 0.30 | Li et al., 2018 |
| Glioblastoma cells | U251 | 2.2 ± 0.2 | Fang et al., 2016 |
| 7.0 ± 0.5 | Guan et al., 2020 |
| Ovarian cancer cells | SK-OV-3 | 3.3 ± 0.09 | Fang et al., 2016 |
| Colon cancer cells | HCT-116 | 8.4 ± 0.5 | Fang et al., 2016 |
| 3.9 ± 0.1 | Guan et al., 2020 |
| HT-29 | 4.77 ± 0.55 | Li et al., 2018 |
| DLD-1 | 16 ± 7 | Gauthier et al., 2009 |
| Gastric cancer cells | SGC-7901 | 1.7 ± 0.03 | Fang et al., 2016 |
| Lung cancer cells | NIC-H460 | 3.7 ± 0.2 | Fang et al., 2016 |
| 5.1 ± 0.1 | Guan et al., 2020 |
| A549 | 2.43 ± 0.07 | Wang et al., 2017 |
| 9.53 ± 0.67 | Wang et al., 2018 |
| 15 ± 4 | Gauthier et al., 2009 |
| 5.41 ± 0.09 | Li et al., 2018 |
| Human normal liver cells | HL-7702 | 13.95 ± 0.59 | Wang et al., 2017 |
| Human acute monocytic leukemia cells | THP1 | 0.45 ± 0.03 | Delmas et al., 1999 |
| Human breast cancer cells | MCF-7 | 10.59 ± 0.76 | Wang et al., 2018 |
| Melanoma | B16 | 3 - 5 | Debiton et al., 2004 |
| IPC227F | 5 - 7 | Debiton et al., 2004 |
| M3Dau | 6 - 7 | Debiton et al., 2004 |
| M4Beu | 3 - 5 | Debiton et al., 2004 |
| Skin fibroblasts | WS1 | 5.7 ± 0.7 | Gauthier et al., 2009 |
| Human prostate cancer cells | PC3 | 0.85 ± 0.08 | Li et al., 2018 |
| Human promyelocytic leukemia cells | HL-60 | 3.31 ± 0.77 | Li et al., 2018 |
| 3.3 | Gerkens et al., 2007 |
| Histiocytic lymphoma cells | U937 | 2.37 ± 0.50 | Li et al., 2018 |
| Human cervical cancer cells | Hela | 0.69 | Yan et al., 2008 |

In addition to the cytotoxic activity reported above, our previous findings further confirmed the that HA1 exhibited stronger anti-tumor activity *in vitro*. Our previous results showed that Hederacolchiside A1 exhibited a strong cytotoxicity with IC50 values range from 0.29 to 3.48 μM against ten cancer cells lines (Zhao et al., 2018). The tested cell lines included lung cancer (A549, SPC-A-1), human hepatocarcinoma (HepG2, Hep3B), human breast adenocarcinoma (MCF-7), human pancreatic cancer (CFPAC-1), human colon cancer (HT-29), human oral epidermoid carcinoma (KB), human esophageal cancer (Eca-109), gastric cancer (SGC-7901), bladder cancer (5637), acute myeloid leukemia (HL-60), and human glioma (U251).