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# 产品名称：JG98
# CAS 号：1456551-16-8
# 产品货号：S88409

## 生物活性：

**Description**

JG-98 是一种热休克蛋白 70 (Hsp70) 变构抑制剂，可与 Hsp70 上的保守位点紧密结合，打断 Hsp70-Bag3 相互作用。JG-98 影响癌细胞和肿瘤相关巨噬细胞，显示抗癌活性。

**IC50 & Target**

Heat shock protein 70[1]

**Cellular Effect**

| Cell Line | Type | Value | Description |
|---|---|---|---|
| MCF7 | $EC_{50}$ | 0.7 μM | Cytotoxicity against human MCF7 cells assessed as growth inhibition after 72 hrs by MTT assay |
| MCF7 | $IC_{50}$ | 0.71 μM | Antiproliferative activity against human MCF7 cells by MTT assay |
| MCF7 | $IC_{50}$ | 0.71 μM | Antiproliferative activity against human MCF7 cells assessed as cell growth inhibition |
| MDA-MB-231 | $EC_{50}$ | 0.4 μM | Cytotoxicity against human MDA-MB-231 cells assessed as growth inhibition after 72 hrs by MTT assay |
| MDA-MB-231 | $IC_{50}$ | 0.39 μM | Antiproliferative activity against human MDA-MB-231 cells by MTT assay |
| MEF | $EC_{50}$ | 24 μM | Cytotoxicity against C57BL/6 mouse MEF assessed as growth inhibition after 72 hrs by MTT assay |
| MEF | $IC_{50}$ | 4.2 μM | Antiproliferative activity against MEF cells by MTT assay |

**In Vitro**

JG-98 (30 nM-30 μM；72 小时) 在多种细胞系中具有抗增殖活性，EC50 介于 ~0.3 至 4 μM 之间[2]。

JG-98 (10 μM；48 小时) 可激活 MDA-MB-231 细胞中的凋亡介质 (caspase-3 和 PARP 的裂解)[1]。

JG-98 可破坏 FoxM1 并减轻对下游效应物的抑制，包括 p21 和 p27[2].

Cell Proliferation Assay[2]

| | |
|---|---|
| Cell Line: | MCF-7, MDA-MB-231, A375, MeWo, HeLa, HT-29, SKOV3, Jurkat, mouse embryonic fibroblasts (MEF), MM1.R, INA6, RPMI-8226, JJN-3, U266, NCI-H929, L363, MM1.S, KMS11, LP-1, AMO-1, OPM1, OPM2 cells |
| Concentration: | 30 nM-30 μM |
| Incubation Time: | 72 hours |
| Result: | Active against all of the lines tested, and the EC50s were variable (between ~0.3 μM and 4 μM). Normal MEFs and OPM1 and OPM2 were relatively less sensitive. |

Western Blot Analysis[1]

| | |
|---|---|
| Cell Line: | MDA-MB-231 cells |
| Concentration: | 10 μM |
| Incubation Time: | 48 hours |
| Result: | Incudes apoptotic mediators cleavage of caspase 3 and PARP. |

**In Vivo**

JG-98 (3 mg/kg；腹腔注射；第 0、2 和 4 天) 可抑制携带 MCF7 和 HeLa 细胞的异种移植模型中的肿瘤生长[2]。

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| | | |
|---|---|---|
| | **Animal Model:** | 6-week-old NCR mice (xenografts of MCF7 and HeLa cells)[2] |
| | **Dosage:** | 3 mg/kg |
| | **Administration:** | Intraperitoneal injection; on days 0, 2, and 4 |
| | **Result:** | Limited tumor growth, but somewhat less effectively. |

**Solvent&Solubility**

**细胞实验:**

DMSO 中的溶解度 ：5 mg/mL (9.35 mM; 超声助溶; 吸湿的 DMSO 对产品的溶解度有显著影响，请使用新开封的 DMSO)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 1.8708 mL | 9.3538 mL | 18.7077 mL |
| | 5 mM | 0.3742 mL | 1.8708 mL | 3.7415 mL |
| | 10 mM | --- | --- | --- |

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

**参考文献**

[1]. Li X, et al. Analogs of the Allosteric Heat Shock Protein 70 (Hsp70) Inhibitor, MKT-077, as Anti-Cancer Agents. ACS Med Chem Lett. 2013 Nov 14;4(11).

[2]. Li X, et al. Validation of the Hsp70-Bag3 protein-protein interaction as a potential therapeutic target in cancer. Mol Cancer Ther. 2015 Mar;14(3):642-8.

[3]. Yaglom JA, et al. Cancer cell responses to Hsp70 inhibitor JG-98: Comparison with Hsp90 inhibitors and findingsynergistic drug combinations. Sci Rep. 2018 Feb 14;8(1):3010.

## 完整储备液配制表：

请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80° C, 6 months; -20° C, 1 month (sealed storage, away from moisture)。-80° C 储存时，请在 6 个月内使用，-20° C 储存时，请在 1 个月内使用。

| 可选溶剂 | 质量 / 溶剂体积 / 浓度 | 1 mg | 5 mg | 10 mg | 25 mg |
|---|---|---|---|---|---|
| DMSO | **1 mM** | 1.8708 mL | 9.3538 mL | 18.7077 mL | 46.7692 mL |
| | **5 mM** | 0.3742 mL | 1.8708 mL | 3.7415 mL | 9.3538 mL |