# PRODUCT INFORMATION

## Hecogenin

*Item No. 21372*

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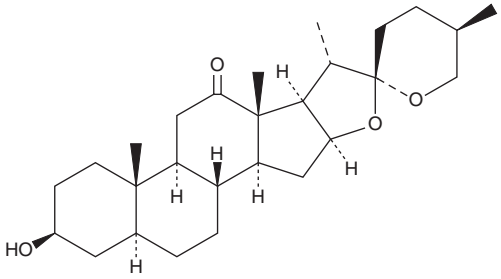
| **CAS Registry No.:** | 467-55-0 |
| **Formal Name:** | (3β,5α,25R)-3-hydroxy-spirostan-12-one |
| **Synonyms:** | (+)-Hecogenin, NSC 115921 |
| **MF:** | $C_{27}H_{42}O_4$ |
| **FW:** | 430.6 |
| **Purity:** | ≥80% |
| **UV/Vis.:** | $\lambda_{max}$: 238 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




*Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.*

### Laboratory Procedures

Hecogenin is supplied as a crystalline solid. A stock solution may be made by dissolving the hecogenin in the solvent of choice. Hecogenin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of hecogenin in these solvents is approximately 30 mg/ml.

Hecogenin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, hecogenin should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Hecogenin has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Hecogenin is a natural steroid sapogenin with diverse biological activities that was originally isolated from *A. sisalana* and has been used in the synthesis of steroids.[1] It has antioxidant, anti-inflammatory, antiproliferative, and neuroprotective properties.[2-5] Hecogenin (10 µM) decreases superoxide anion formation induced by N-Formyl-Met-Leu-Phe (fMLP; Item No. 21495) in rat neutrophils by 23.6%.[2] It also inhibits myeloperoxidase (MPO) release from human neutrophils activated by phorbol 12-myristate 13-acetate (PMA; Item No. 10008014) when used at a concentration of 1 µg/ml.[3] Hecogenin inhibits proliferation of the breast cancer cell lines MDA-MB-231, MDA-MB-468, MCF-10A, MCF-7, T47D, BT474, and SK-BR-3 ($IC_{50}$s = 28.7-38.2 µM).[4] It decreases the number of glutamate-induced TUNEL-positive primary rat spinal motor neurons by 11% when used at a concentration of 1 µM.[5] *In vivo*, hecogenin (15 mg/kg) decreases the mucosal lesion area of ethanol-induced gastric ulceration in mice.[3] It also decreases tumor volume in an MDA-MB-231 human breast cancer mouse xenograft model when administered at a dose of 10 mg/kg three times per week.[4]

### References


1. Cripps, A.L. and Blunden, G. *Steroids* **31(5)**, 661-669 (1978).
2. Tsai, P.L., Wang, J.P., Chang, C.W., *et al. Phytochemistry* **49(6)**, 1663-1666 (1998).
3. Santos Cerqueira, G., dos Santos e Silva, G., Rios Vasconcelos, E., *et al. Eur. J. Pharmacol.* **683(1-3)**, 260-269 (2012).
4. Elsayed, H.E., Ebrahim, H.Y., Haggag, E.G., *et al. Bioorg. Med. Chem.* **25(24)**, 6297-6312 (2017).
5. Vincent, A.M., Backus, C., Taubman, A.A., *et al. Other Motor Neuron Disord.* **6(1)**, 29-36 (2005).





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