# Product Data Sheet

Product Name: Neoruscogenin
Cat. No.: GC10644

## Chemical Properties

| | | | |
|---|---|---|---|
| Cas. No. | 17676-33-4 | | |
| Chemical Name | spirosta-5,25(27)-diene-1β,3β-diol | | |
| SMILES | C=C(CO1)CC[C@@]21O[C@@]3([H])C[C@@]4([H])[C@]5([H])CC=C6C[C@@H](O)C[C@@H](O)[C@]6(C)[C@@]5([H])CC[C@]4(C)[C@@]3([H])[C@@H]2C | | |
| Formula | $C_{27}H_{40}O_4$ | M.Wt | 428.6 |
| Solubility | ≤30mg/ml in ethanol;30mg/ml in DMSO;30mg/ml in dimethyl formamide | Storage | 4°C, protect from light |
| General tips | For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months. | | |
| Shipping Condition | Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request. | | |
| Structure | Neoruscogenin | | |

## Background

Neoruscogenin is a bioavailable, potent, and high-affinity agonist of the nuclear receptor RORα [1]. Neoruscogenin is a natural sapogenin extracted from Butcher’s broom (Rusci rhizoma, Ruscus aculeatus, Ruscaceae) [2].

RAR-related orphan receptor alpha (RORα) is a nuclear receptor that participates in the transcriptional regulation of some genes involved incircadian rhythm. Genetic studies have revealed that RORα plays an important role in the development of the central nervous system and has been associated with genetic lesions in mice [3].

In vitro: In confluent human microvascular endothelial cells (HMEC-1), pre-treatment with neoruscogenin slightly decreased the permeability at concentrations up to 100 μM (71.8%). The EC50 of neoruscogenin against the nuclear receptor RORα was 110 nM [1].


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In vivo: In mice, oral administration of neoruscogenin (3 mg/kg/d) for seven days up-regulated the expression of several RORα-inducible genes in the liver [1].

References:

[1] Helleboid S, Haug C, Lamottke K, et al. The identification of naturally occurring neoruscogenin as a bioavailable, potent, and high-affinity agonist of the nuclear receptor RORα (NR1F1)[J]. Journal of biomolecular screening, 2013: 1087057113497095.
[2] Barbi M, Willer E A, Rothenhfer M, et al. Spirostanol saponins and esculin from Rusci rhizoma reduce the thrombin-induced hyperpermeability of endothelial cells[J]. Phytochemistry, 2013, 90: 106-113.
[3] Giguère V. Orphan nuclear receptors: from gene to function 1[J]. Endocrine reviews, 1999, 20(5): 689-725.


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