Neohesperidin
Item No. 23028

CAS Registry No.: 13241-33-3
Formal Name: (2S)-7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one
Synonyms: Hesperetin 7-neohesperidoside, NSC 31048
MF: C_{28}H_{34}O_{15}
FW: 610.6
Purity: ≥98%
UV/Vis.: λ_max: 285 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

Neohesperidin is supplied as a crystalline solid. A stock solution may be made by dissolving the neohesperidin in the solvent of choice, which should be purged with an inert gas. Neohesperidin is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of neohesperidin in these solvents is approximately 5 and 3 mg/ml, respectively.

Neohesperidin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, neohesperidin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Neohesperidin has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Neohesperidin is a flavonoid found in citrus fruit peel that has diverse biological activities.\(^1\)\(^-\)\(^3\) In vitro, it inhibits osteoclast differentiation, bone resorption, calcium oscillations, and activation of NF-kB and nuclear factor of activated T cells (NFAT) by receptor activator of NF-kB ligand (RANKL).\(^1\) In vivo, neohesperidin administration protects ovariectomized mice from bone loss. Neohesperidin acts as a hypolipidemic agent, reducing lipid accumulation in HepG2 cells and reversing hyperlipidemia in a mouse model of diet-induced obesity.\(^2\) In a mouse model of diabetes, neohesperidin increases glucose tolerance and decreases insulin resistance while simultaneously decreasing serum triglycerides and total cholesterol and inhibiting lipid accumulation in livers in vivo.\(^3\)

References