[ **Product Information** ]

Name: Sesamin

**Catalog No.**: CFN97034

**Cas No.**: 607-80-7

**Purity**: >=98%

**M.F:** C<sub>20</sub>H<sub>18</sub>O<sub>6</sub>

**M.W**: 354.35

**Physical Description**: Powder

**Synonyms**: 1,3-Benzodioxole, 5,5'-(tetrahydro-1H,3H-furo[3,4-c]furan-1,4-diyl)bis-,
[1S-(1a,3aa,4a,6aa)]; 1H,3H-Furo[3,4-c]furan, tetrahydro-1,4-bis[3,4-(methyleneedioxy)phenyl]-, (1S,3aR,4S,6aR)- (8CI); 1H,3H-Furo[3,4-c]furan, 1,3-benzodioxole deriv.; d-Sesamin; (+)-Sesamin; 5,5'-(Tetrahydro-1H,3H-furo[3,4-c]furan-1,4-diyl)bis-1,3-benzodioxole;
Fagarol; Tetrahydro-1,4-bis[3,4-(methyleneedioxy)phenyl]-1H,3H-furo[3,4-c]furan.

[ **Intended Use** ]

1. Reference standards;
2. Pharmacological research;
3. Food research;
4. Synthetic precursor compounds;
5. Intermediates & Fine Chemicals;
6. Others.
The seeds of *Sesamum indicum*.

[Source]

[Biological Activity or Inhibitors]

Sesamin, a lignan from sesame oil, sesamin feeding inhibits enhanced vascular $O_2^-$ production in DOCA-salt hypertensive rats and that the antioxidative action of sesamin may contribute to its antihypertensive activity.\[^1\] Sesamin has antioxidative activity, it protects β-cells from damage caused by Advanced glycation end products (AGEs) through suppressing NADPH oxidase-mediated oxidative stress.\[^2\]

Sesamin causes elevation of tissue tocopherol concentration in rats, strongly inhibits tocopherol metabolism by HepG2/C3A cells at 1.0 microM, the results support a CYP3A-dependent mechanism of side chain metabolism of tocopherols to water-soluble carboxychromans, and provide the first evidence of a specific enzyme involved in vitamin E metabolism, suggests that sesamin increases tissue tocopherol concentration by inhibiting tocopherol catabolism.\[^3\]

Chronic ingestion of vitamin E and sesamin attenuate both elevation in blood pressure, oxidative stress and thrombotic tendency, suggesting that these treatments might be beneficial in the prevention of hypertension and stroke.\[^4\]

Sesamin is a potent and specific inhibitor of delta 5 desaturase in polyunsaturated fatty acid biosynthesis.\[^5\]

Sesamin has anti-inflammatory properties, it attenuates intercellular cell adhesion molecule-1 expression in vitro in TNF-α-treated human aortic endothelial cells and in vivo in apolipoprotein-E-deficient mice, suggests that it may prevent the development of atherosclerosis and inflammatory responses.\[^6\]

Sesamin induces significant neuroprotection, by ameliorating many signaling pathways activated/deactivated following cerebral ischemia in adult mouse.\[^7\]

Sesamin, at the level of 100 mg/kg body weight, can prevent liver lipid accumulation by carbon tetrachloride in mice, indicates that sesamin and a related lignan compound have
an ability to improve liver function.[8]
Sesamin possesses antihypertensive, cholesterol-lowering, lipid-lowering and anticancer activities, it can down-regulate cyclin D1 protein expression through the activation of proteasome degradation, the effect could be one of the mechanisms of the antiproliferative activity of this agent.[9]

[Solvent]
Chloroform, Dichloromethane, Ethyl Acetate, DMSO, Acetone, etc.

[HPLC Method][10]
Mobile phase: Methanol- H2O, gradient elution
Flow rate: 0.8 ml/min;
Column temperature: Room Temperature;
The wave length of determination: 290 nm.

[Storage]
2-8°C, Protected from air and light, refrigerate or freeze.

[References]

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