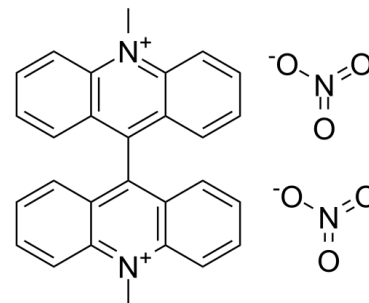


Data Sheet

Product Name:	Lucigenin
Cat. No.:	CS-3541
CAS No.:	2315-97-1
Molecular Formula:	C ₂₈ H ₂₂ N ₄ O ₆
Molecular Weight:	510.50
Target:	Others
Pathway:	Others
Solubility:	DMSO : ≥ 25 mg/mL (48.97 mM)



BIOLOGICAL ACTIVITY:

Lucigenin(L-6868; NSC-151912) is a chemiluminescent probe used to indicate the presence of endogenously generated superoxide anion radicals in cells. Upon single-electron reduction of Lucigenin by a radical species the subsequent form of Lucigenin presents an amplified chemiluminescence which is measurable and can be correlated to the respective amount of reactive radical species present in the system. This approach can be used to probe the natural generation of these species as well as the natural functioning of superoxide dismutase and other enzymes responsible for scavenging radicals. In addition to indicating the presence of radicals in cells, Lucigenin shows interaction with redox-active oxidoreductase enzymes. Lucigenin is shown to mediate the reduction of cytochrome C by xanthine oxidase and to increase the rate of NADPH oxidation. These observations indicate that use of Lucigenin for superoxide analysis is precluded in the presence of high levels of NAD(P)H-oxidoreductases.

References:

- [1]. Li Y, et al. Validation of lucigenin (bis-N-methylacridinium) as a chemilumigenic probe for detecting superoxide anion radical production by enzymatic and cellular systems. *J Biol Chem.* 1998 Jan 23;273(4):2015-23.
- [2]. Rost M, et al. What do we measure with luminol-, lucigenin- and penicillin-amplified chemiluminescence? 1. Investigations with hydrogen peroxide and sodium hypochlorite. *J Biolumin Chemilumin.* 1998 Nov-Dec;13(6):355-63.

CAIndexNames:

9,9'-Biacridinium, 10,10'-dimethyl-, nitrate (1:2)

SMILES:

C[N+]1=C2C=CC=CC2=C(C3=C4C=CC=CC4=[N+](C)C5=C3C=CC=C5)C6=C1C=CC=C6.O=[N-](O-)=O.O=[N-](O-)=O

Caution: Product has not been fully validated for medical applications. For research use only.

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