AdipoGen®
LIFE SCIENCES

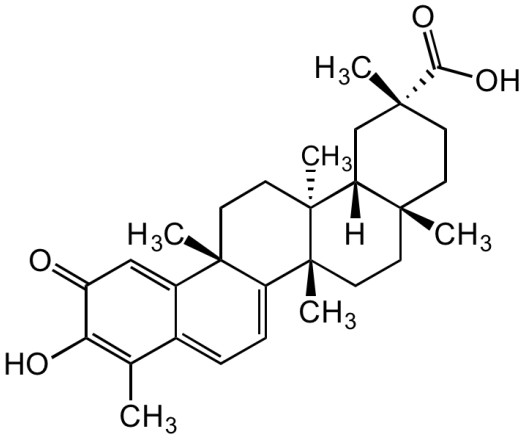
PRODUCT DATA SHEET

AG-CN2-0460

26-May-2015

Celastrol

[Tripterine; NSC 70931]



AG-CN2-0460-M005	5 mg
AG-CN2-0460-M010	10 mg
AG-CN2-0460-M050	50 mg
Formula	$C_{29}H_{38}O_4$
MW	450.6
CAS	34157-83-0
Merck Index	**14:** 10370
RTECS	YJ7900000

Handling / Storage

Shipping	AMBIENT
Short Term Storage	+4°C
Long Term Storage	-20°C

Keep cool and dry. Protect from light.

Use / Stability

Stable for at least 2 years after receipt when stored at -20°C.

MSDS available at www.adipogen.com or upon request.

Product Specifications

Source/Host	Isolated from *Tripterygium wilfordii*.
Purity	≥98% (HPLC)
Appearance	Red solid.
Solubility	Soluble in DMSO, ethanol or dimethylformamide. Insoluble in water.

Product Description

- Anti-obesity agent. Potent leptin sensitizer.
- Antioxidant.
- Potent lipid peroxidation inhibitor.
- NADPH oxidases (NOX1, 2, 4 and 5) inhibitor.
- Anti-inflammatory. NF-κB inhibitor.

WARNING: Intended for research use only. This product is not intended or approved for human, diagnostics, therapeutic or veterinary use. Use of this product for human or animal testing is extremely hazardous and may result in disease, severe injury, or death. **MATERIAL SAFETY DATA:** Review the complete Material Safety Data Sheet before use.

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- HSP90 inhibitor and HSP70 inducer.
- Anticancer agent. Apoptosis and autophagy inducer. Inhibits PI3K/Akt signaling pathways.
- Anti-metastatic and anti-angiogenic compound. Reduces VEGFR expression and inhibits HIF-1α pathway.
- Topoisomerase II inhibitor.
- 20S proteasome chymotrypsin-like activity inhibitor.
- Potential antiviral and anti-Alzheimer's agent.

Product Specific References

1. The triterpene celastrol as a very potent inhibitor of lipid peroxidation in mitochondria: H. Sassa, et al.; BBRC **172,** 890 (1990)
2. Celastrol, a potent antioxidant and anti-inflammatory drug, as a possible treatment for Alzheimer's disease: A.C. Allison, et al.; Prog. Neuropsychopharmacol. Biol. Psychiatry **25,** 1341 (2001)
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6. Celastrol, a triterpene extracted from the Chinese "Thunder of God Vine," is a potent proteasome inhibitor and suppresses human prostate cancer growth in nude mice: H. Yang, et al.; Cancer Res. **66,** 4758 (2006)
7. Celastrol, a novel HSP90 inhibitor, depletes Bcr-Abl and induces apoptosis in imatinib-resistant chronic myelogenous leukemia cells harboring T315I mutation: Z. Lu, et al.; Cancer Lett. **290,** 182 (2010)
8. Celastrol: Molecular targets of Thunder God Vine: A. Salminen, et al.; BBRC **394,** 439 (2010) (Review)
9. Celastrol acts as a potent antimetastatic agent targeting beta1 integrin and inhibiting cell-extracellular matrix adhesion, in part via the p38 mitogen-activated protein kinase pathway: H. Zhu, et al.; J. Pharmacol. Exp. Ther. **334,** 489 (2010)
10. Inhibitory action of Celastrol on hypoxia-mediated angiogenesis and metastasis via the HIF-1α pathway: L. Huang, et al.; Int. J. Mol. Med. **27,** 407 (2011)
11. NADPH oxidase (NOX) isoforms are inhibited by celastrol with a dual mode of action: V. Jaquet, et al.; Br. J. Pharmacol. **164,** 507 (2011)
12. Celastrol inhibits Tat-mediated human immunodeficiency virus (HIV) transcription and replication: V. Narayan, et al.; J. Mol. Biol. **410,** 972 (2011)
13. Celastrol inhibits tumor cell proliferation and promotes apoptosis through the activation of c-Jun N-terminal kinase and suppression of PI3 K/Akt signaling pathways: R. Kannaiyan, et al.; Apoptosis **16,** 1028 (2011)

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14. Celastrol, an NF-κB inhibitor, improves insulin resistance and attenuates renal injury in db/db mice: J.E. Kim, et al.; PLoS One **8,** e62068 (2013)

15. Inhibition of C2C12 myotube atrophy by a novel HSP70 inducer, celastrol, via activation of Akt1 and ERK1/2 pathways: T. Gwag, et al.; Arch. Biochem. Biophys. **537,** 21 (2013)

16. Celastrol induces apoptosis and autophagy via the ROS/JNK signaling pathway in human osteosarcoma cells: an in vitro and in vivo study: H.Y. Li, et al.; Cell Death Dis. **6,** e1604 (2015)

17. Treatment of obesity with celastrol: J. Liu, et al.; Cell **161,** 999 (2015)

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