**Diethylumbelliferyl phosphate (UBP; DEUP):** Cholesteryl ester hydrolase inhibitor

Prod. Code D 7692

An effective inhibitor of the cholesteryl ester hydrolase in intact MA-10 Leydig tumor cells (IC_{50} = 11.6 µM in (Bu)2cAMP-stimulated, cholesteryl ester-loaded MA-10 cells) [1]. Blocks steroidalogenesis mainly by preventing cholesterol transport into the mitochondria of steroidogenic cells [1]. In Fu5AH cells, UBP caused a 72% decrease in the cellular free cholesteryl/cholesteryl ester and inhibition of triglycerides (TG), but did not interfere with esterified cholesterol and TG synthesis nor did it cause cellular toxicity in doses up to 120 µg/ml [2,3]. Inhibitors of cholesteryl ester are anticipated to limit the absorption of dietary cholesterol [4].

**References**


2. Delamatre, J.G., et al., Evidence that a neutral cholesteryl ester hydrolase is responsible for the extralysosomal hydrolysis of high-density lipoprotein cholesteryl ester in rat hepatoma cells (Fu5AH). J. Cell Physiol., 157, 164-168 (1993).


**S-15176 difumarate salt:** Carnitine palmitoyltransferase (CPT-1) inhibitor; antioxidant and anti-ischemic agent

Prod. Code S 5944

IC_{50} for carnitine palmitoyltransferase (CPT-1) in heart homogenate is 16.8 µM. Inhibits in vitro lipid peroxidation (0.3 µM) in liver from animals subjected to 2 hr of liver injury induced by warm ischemia-reperfusion. The shift from fatty acid to glucose oxidation may contribute to anti-ischemic effect. Also used to inhibit mitochondrial permeability transition and to prevent onset of apoptosis by preventing collapse of the electrochemical gradient across the mitochondrial membrane.

**References**


**MEDICA 16: ATP-citrate lyase inhibitor; potent triacylglycerol-lowering agent

Prod. Code M 5693

ATP-citrate lyase is the main enzyme responsible for supplying acetyl-CoA to many tissues, and most notably in adipose tissue and liver where de novo synthesis of fatty acids is very active, especially when glucose is in excess [1]. Because ATP-citrate lyase is involved in both the fatty acid and cholesterol synthesis pathways, it has been suggested that inhibition of this enzyme may be a drug target for hyperlipidemia [1]. One compound that supports this suggestion is MEDICA 16. When MEDICA 16 was given to JCR:LA-cp rats (0.25% (wt/wt) starting at weaning up to three weeks of age, JCR:LA-cp rats develop extreme obese/insulin-resistant syndrome by 12 weeks of age), their plasma lipids decreased dramatically and their food intake and body weight returned to normal levels by 8 weeks of age [2]. In addition, insulin levels were significantly decreased, and plasma triacylglycerol concentrations were maintained at the same level as the control lean rats [2].

**References**


**A-350619 hydrochloride:** Novel, soluble guanylyl cyclase activator

Prod. Code A 6604

The soluble guanylyl cyclase (sGC) receptor is a major receptor for nitric oxide (NO). Guanylyl cyclase converts GTP to cGMP affecting such physiological processes as smooth muscle relaxation, neurotransmission, inhibition of platelet aggregation and immune response. A-350619, an activator of sGC, modulates the catalytic properties of sGC [increases V_{max} from 0.1 to 14.5 µmol/min/mg (145-fold increase), lowers K_{m} from 300 to 50 µM (6-fold decrease)]. A-350619 has also been shown to relax rabbit corpus cavernosum tissue strips in a dose-dependent manner with IC_{50} of 80 µM (vs 50 µM for another sGC inhibitor, YC-1). Moreover, A-350619 has been shown to induce penile erection in a conscious rat model (1 µmol/kg) suggesting that activation of sGC could be used as an alternate method of enhancing the effect of NO for the treatment of sexual dysfunction.

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**Reference**


**Related Products**

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Product Name          Descriptor          Prod. Code
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Isoliquiritigenin     Guanylyl cyclase activator I 3766
NS 2028              Guanylyl cyclase inhibitor N-211
ODQ                  Guanylyl cyclase inhibitor O 3636
YC-1                 Guanylyl cyclase activator Y-102
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