# Cholesterol Metabolites

FOCUS BIOMOLECULES

## 27-Hydroxycholesterol

Metabolite resulting from the action of sterol 27-hydroxylase on cholesterol. Concentrations of 27-hydroxycholesterol are elevated in patients with Alzheimer's disease and mild cognitive impairment.[2,3] Endogenous selective estrogen receptor modulator[4] and ligand for the liver X receptor ($EC_{50}$ = 85nM for LXRα and 71nM for LXRβ)[5].

**Product No: 10-4536 1 mg/ 5 mg/**

## 24,25-Epoxycholesterol

Endogenous agonist for nuclear receptor LXR[6]. Controls cellular cholesterol homeostasis[7]. Promotes neural development in zebra fish as well as dopaminergic differentiation of embryonic stem cells[8]. Cell permeable.

**Product No: 10-1330 1 mg/ 5 mg/**

## 24(S)-Hydroxycholesterol

24(S)-Hydroxycholesterol is an endogenous agonist of the nuclear receptor LXR.[6] Induces cell death in neuroblastoma cells[9], possibly via a necroptosis pathway[10]. High affinity ligand for RORα and RORγ(Ki = 25 nM).[11] 24(S)-Hydroxycholesterol levels are elevated in the cerebral spinal fluids of patients with neurodegenerative diseases suggesting possible clinical applications.[12,13]

**Product No: 10-1331 1 mg/ 5 mg/**

## 20(S)-Hydroxycholesterol

20-(S)-Hydroxycholesterol is an endogenous ligand for the LXR receptor.[14] It has anti-adipogenic and pro-osteogenic effects in mesenchymal stem cells mediated via a non-LXR dependent pathway.[15] The osteogenic effects of 20-(S)-hydroxycholesterol act activation of hedgehog signaling (at a binding site distinct from cyclopamine)[16,17] and Notch gene expression[18]

**Product No: 10-4540 1 mg/ 5 mg/**

## 25-Hydroxycholesterol

Metabolite resulting from the action of cholesterol 25-hydroxylase on cholesterol. Cholesterol 25-hydroxylase knock-out mice still have significant levels of 25-hydroxycholesterol indicating alternate pathways of generation must exist.[19] Recent reports have linked 25-hydroxycholesterol to immunoregulatory roles.[20]

**Product No: 10-4539 5 mg/ 25 mg/**

## 7α-Hydroxycholesterol

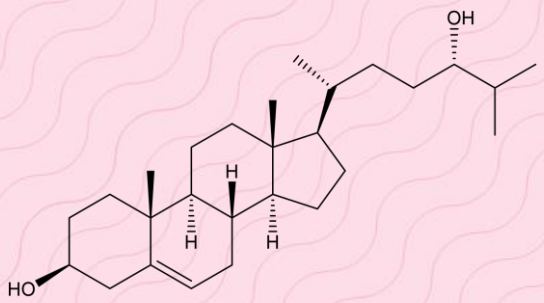
Metabolite resulting from the action of cholesterol 7 alpha-hydroxylase on cholesterol. A pro-inflammatory mediator that upregulates production of CCL2 and MMP9 in macrophages and may promote progression of atherosclerosis.[21,22] Possible biomarker for cellular lipid peroxidation.[23]

**Product No: 10-4538 1 mg/ 5 mg/**

## 5α,6α-Epoxycholesterol

Naturally occurring metabolite that is found in processed food[24] and has been associated with atherosclerosis[25]. Endogenous ligand of LXR (EC50 = 76 nM).[26]

**Product No: 10-4545 25 mg/ 100 mg/**




24(S)-Hydroxycholesterol

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