

Statins

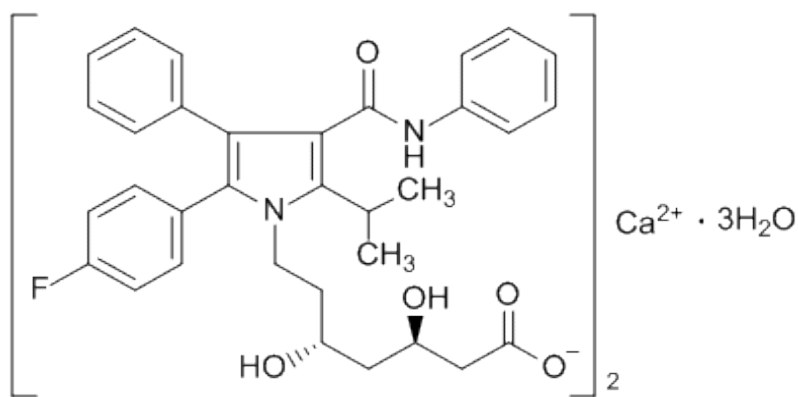
Antihyperlipidemics Anticancer Agents

Statins are a group of compounds that exhibit anti-hyperlipidemic activity and are clinically used to lower plasma levels of LDL and total cholesterol¹. These compounds typically inhibit HMG-CoA reductase, suppressing the production of cholesterol precursor mevalonate². Not only do statins inhibit cholesterol synthesis, they also prevent the production of prenylated proteins, improving endothelial function, inflammatory responses, and cardiac health³⁻⁴.

There are two main groups of statins, one of which includes fungal metabolites and their synthetic analogs such as **Mevinolin/Lovastatin (M1678)**, **Simvastatin (S3449)**, and **Pravastatin Sodium**

(**P6801**). The other category includes purely synthetic statins such as **Atorvastatin Calcium Trihydrate (A7658)**, **Fluvastatin Sodium (F4482)**, and **Rosuvastatin Calcium (R5974)**⁵⁻⁶.

Additionally, some statins also exhibit anticancer effects⁷. In myeloid leukemia and medulloblastoma cells, lovastatin induces G1 phase cell cycle arrest and apoptosis, inhibiting cell proliferation⁸⁻⁹. In animal models, lovastatin displays anti-angiogenic activity as well, suppressing VEGF secretion and inhibiting tumor-induced vessel formation¹⁰. In other animal models, rosuvastatin and fluvastatin inhibit Ras protein translocation and pancreatic tumor growth¹¹.



A7658 Atorvastatin Calcium Trihydrate

Also Available:

C1668 Cerivastatin Sodium
F4482 Fluvastatin Sodium
M1687 Mevinolin/Lovastatin
M1685 Mevastatin
P3576 Pitavastatin Calcium
P6801 Pravastatin Sodium
P6800 Pravastatin Lactone
R5974 Rosuvastatin Calcium
S3449 Simvastatin
S3450 Simvastatin Sodium

References:

1. Blumenthal RS. Am Heart J. 2000 Apr;139(4):577-83.
2. Krause BR, Newton RS. Atherosclerosis. 1995 Oct;117(2):237-44.
3. Spindler SR, Li R, Dhahbi JM, et al. PLoS One. 2012;7(6):e39581.
4. Furberg CD. Circulation. 1999 Jul 20;100(3):e14-7.
5. Kostner GM. Wien Med Wochenschr. 1999;149(5-6):120-4.
6. Bergstrom JD, Bostedor RG, Rew DJ, et al. Biochim Biophys Acta. 1998 Jan 23;1389(3):213-21.
7. Thurnher M, Nussbaumer O, Gruenbacher G. Clin Cancer Res. 2012 Jul 1;18(13):3524-31.
8. Park WH, Lee YY, Kim ES, et al. Anticancer Res. 1999 Jul-Aug;19(4B):3133-40.
9. Macaulay RJ, Wang W, Dimitroulakos J, et al. J Neurooncol. 1999 Mar;42(1):1-11.
10. Feleszko W, Balkowiec EZ, Sieberth E, et al. Int J Cancer. 1999 May 17;81(4):560-7.
11. Gbelcová H, Leníček M, Zelenka J, et al. Int J Cancer. 2008 Mar 15;122(6):1214-21.

