

## Answer on Question #53619 – Biology – Biochemistry

### Question:

Excess dietary fat can be converted into cholesterol in the liver. When Palmitate labeled with C14 at every even-numbered carbon is added to liver homogenate, where does the radiolabel appear in mevalonate?

### Answer:

Mevalonate should be radiolabeled C14 at some particular carbons. It is due to a fact that mevalonate is synthesised starting from two molecules of Acetyl-CoA. When palmitate, labeled at even-numbered carbons, is added to liver homogenate it is oxidized to the half-labeled molecules of Acetyl CoA that become the substrates for mevalonate pathway to be converted into cholesterol. The labeled carbons are signed with the red dots.

