

Fatty Acid β -Oxidation

Stage	Enzyme	Non-Fatty Acid		Comments
		Reactants	Products	
Fatty Acid Release	triacylglycerol lipase	H ₂ O		hormone control, phosphorylated enzyme is active form
Activation	acyl CoA synthetase (thiokinase)	ATP, CoASH	AMP, PP _i	subsequent PP _i hydrolysis pulls reaction
Transport into Mitochondria	carnitine acyltransferase I	carnitine	CoASH	links acyl to carnitine by ester linkage for transport
	carnitine acyltransferase II	CoASH	carnitine	replaces carnitine with CoA inside the mitochondria
β -oxidation	acyl CoA dehydrogenase	FAD	FADH ₂	Different forms of enzyme for different acyl lengths
	3-hydroxy acyl CoA dehydrogenase	NAD ⁺	NADH	
	3-ketoacyl CoA thiolase	CoASH		

