

Supplement S2. Description of the Kinetic Processes Defined in the Model

Lp Species	Process	Description
A-particle	<i>Death and Birth</i>	
	CreateA	Synthesis and secretion of lipid-poor apoA-I molecules by the liver
	DestroyA	Receptor-mediated particle uptake, e.g. by the HDL receptor (HDLR)
	<i>Lipoprotein-Tissue Exchange</i>	
	Influx	Peripheral cholesterol is transferred to plasma HDL particles mediated by e.g. ABCA1
	EffluxA	Selective uptake of cholesteryl ester from HDL facilitated by e.g. SRB1
	<i>Inter-Lipoprotein Exchange</i>	
	ExchangeC _A	Cholesteryl ester is transferred from HDL to the non-lipid bound exchange protein (<i>CETP</i> (0))
	ExchangeT _A	<i>CETP</i> (T) releases its triglyceride content to HDL
	TransferA	Remodeling of apoA containing HDL particles by losing and
	UptakeA	receiving a single molecule of apoA-I from the plasma pool
	TransferF _A	Delivery of apolipoproteins from HDL to newly synthesized VLDL via a free plasma pool
	UptakeF _A	Uptake of apolipoproteins by HDL particles
	<i>Enzymatic Conversion</i>	
	HydrolyzeA	Hydrolysis of triglycerides (release of free fatty acids) by the action of Hepatic Lipase (HL)
B-particle	<i>Death and Birth</i>	
	CreateB	Synthesis and secretion of VLDL by the liver
	DestroyB	Receptor-mediated particle uptake, e.g. by the LDL receptor (LDLR)
	<i>Lipoprotein-Tissue Exchange</i>	
	EffluxB	Selective uptake of cholesteryl ester from, e.g. LDL, facilitated by e.g. SRB1
	<i>Inter-Lipoprotein Exchange</i>	
	ExchangeC _B	<i>CETP</i> (C) releases its cholesteryl ester to apoB-containing lipoproteins
	ExchangeT _{B1}	Triglyceride from apoB-containing lipoproteins is transferred to the non-lipid bound exchange protein (<i>CETP</i> (0))
	ExchangeT _{B2}	<i>CETP</i> (T) releases its triglyceride content to apoB-containing lipoproteins
	TransferF _B	Release of apolipoproteins during the delipidation cascade of apoB particles
	UptakeF _B	Uptake of further apolipoprotein molecules, e.g. of apoE by newly synthesized VLDL
	<i>Enzymatic Conversion</i>	
	HydrolyzeB	Hydrolysis of triglycerides (release of free fatty acids) by the action of Lipoprotein Lipase (LPL)

Abbreviations: *CETP* (Cholesteryl ester transfer protein), LPL (lipoprotein lipase), HL (hepatic lipase), ABCA1 (ATP-binding cassette transporter class A type 1), SRB1 (Scavenger receptor B1)