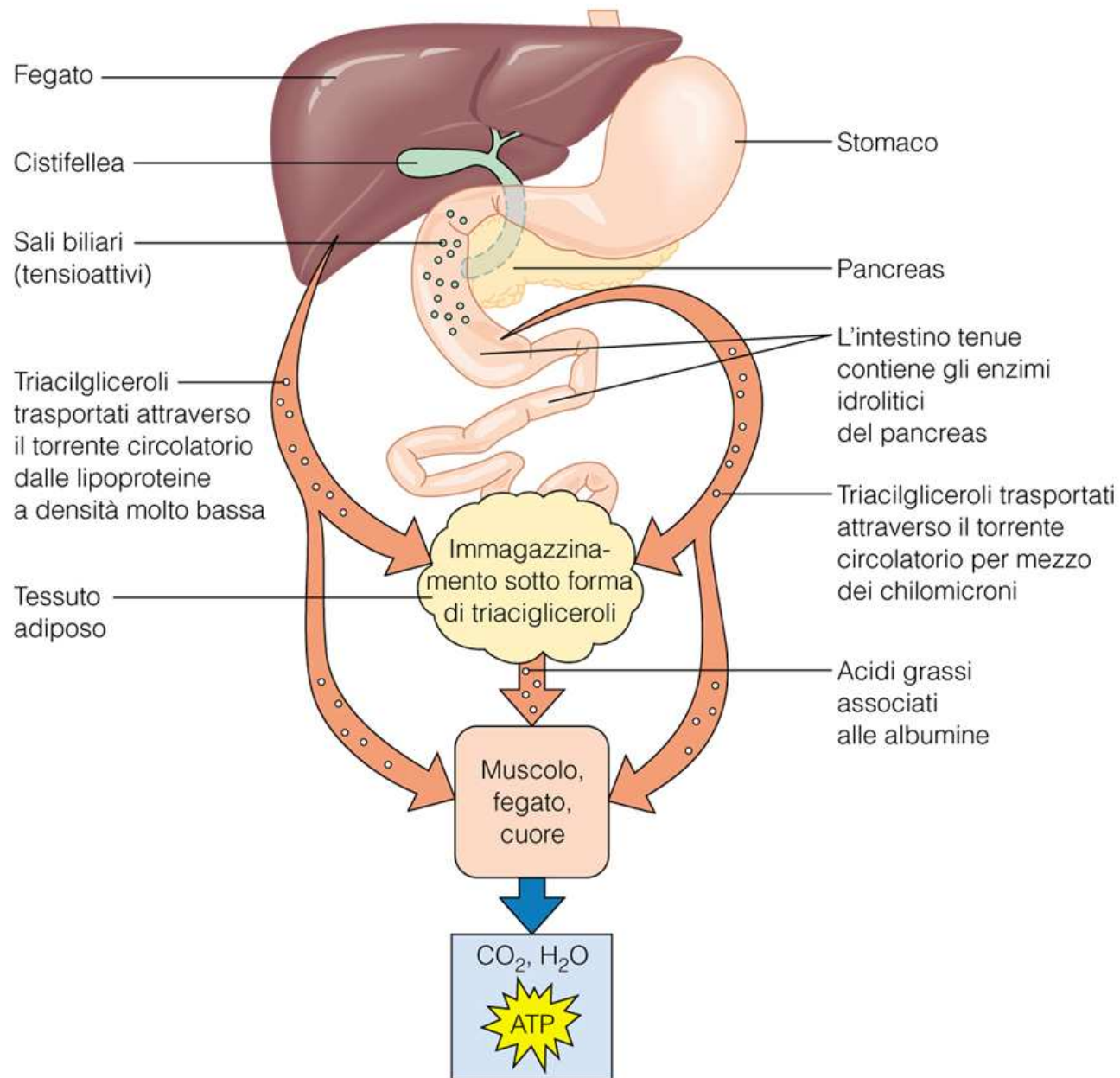
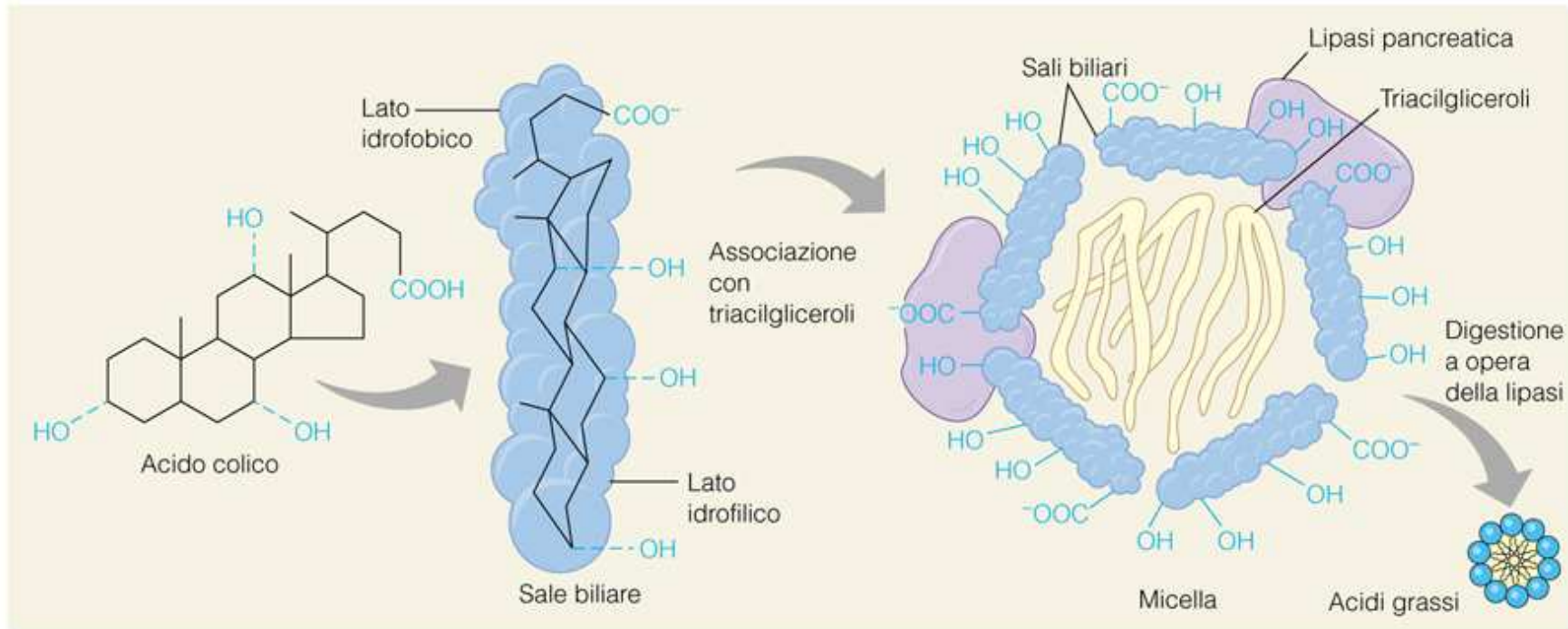


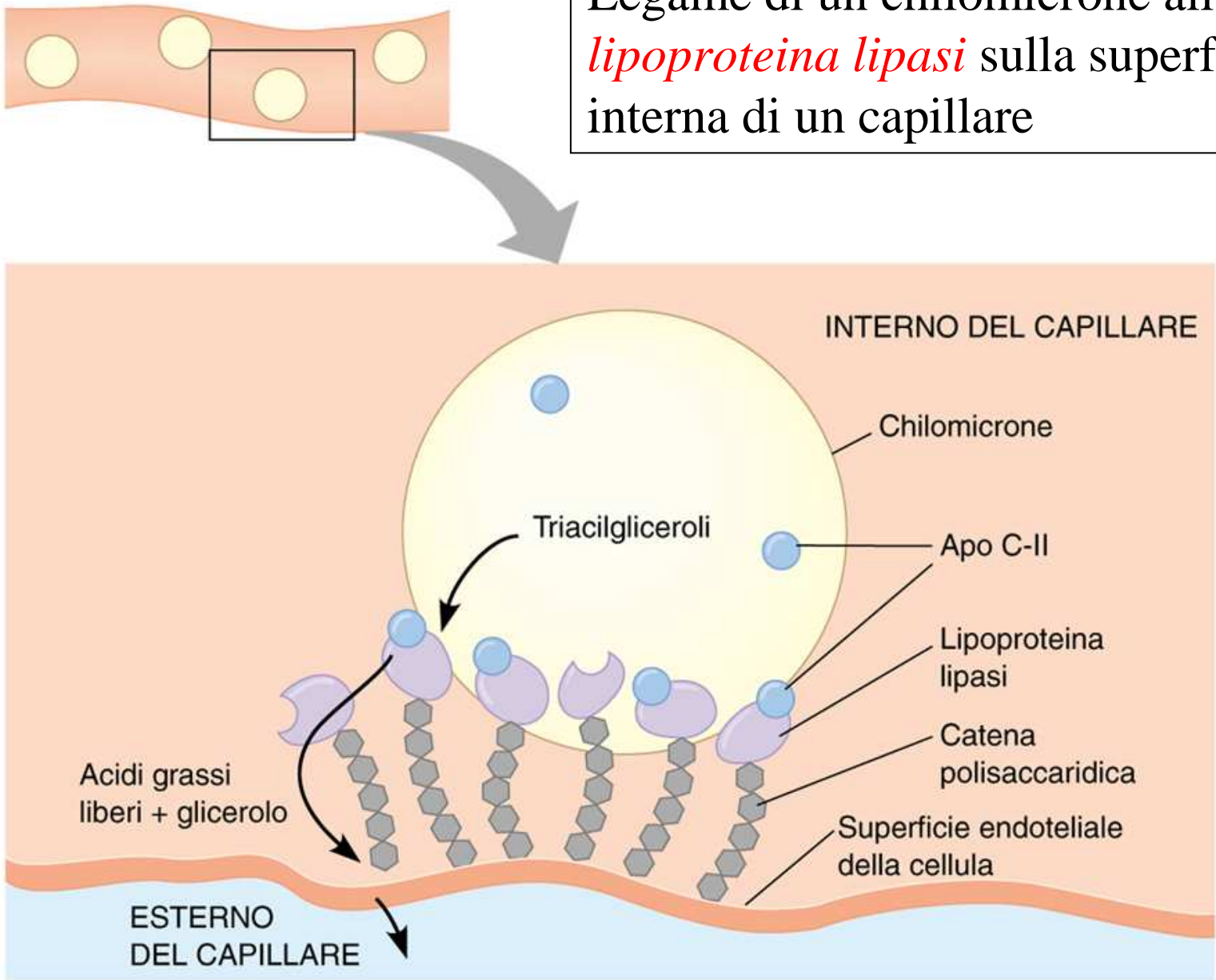
DIGESTIONE E ASSORBIMENTO DEI LIPIDI



AZIONE EMULSIONANTE DEI SALI BILIARI SUI LIPIDI NELL'INTESTINO



Legame di un chilomicrone alla *lipoproteina lipasi* sulla superficie interna di un capillare

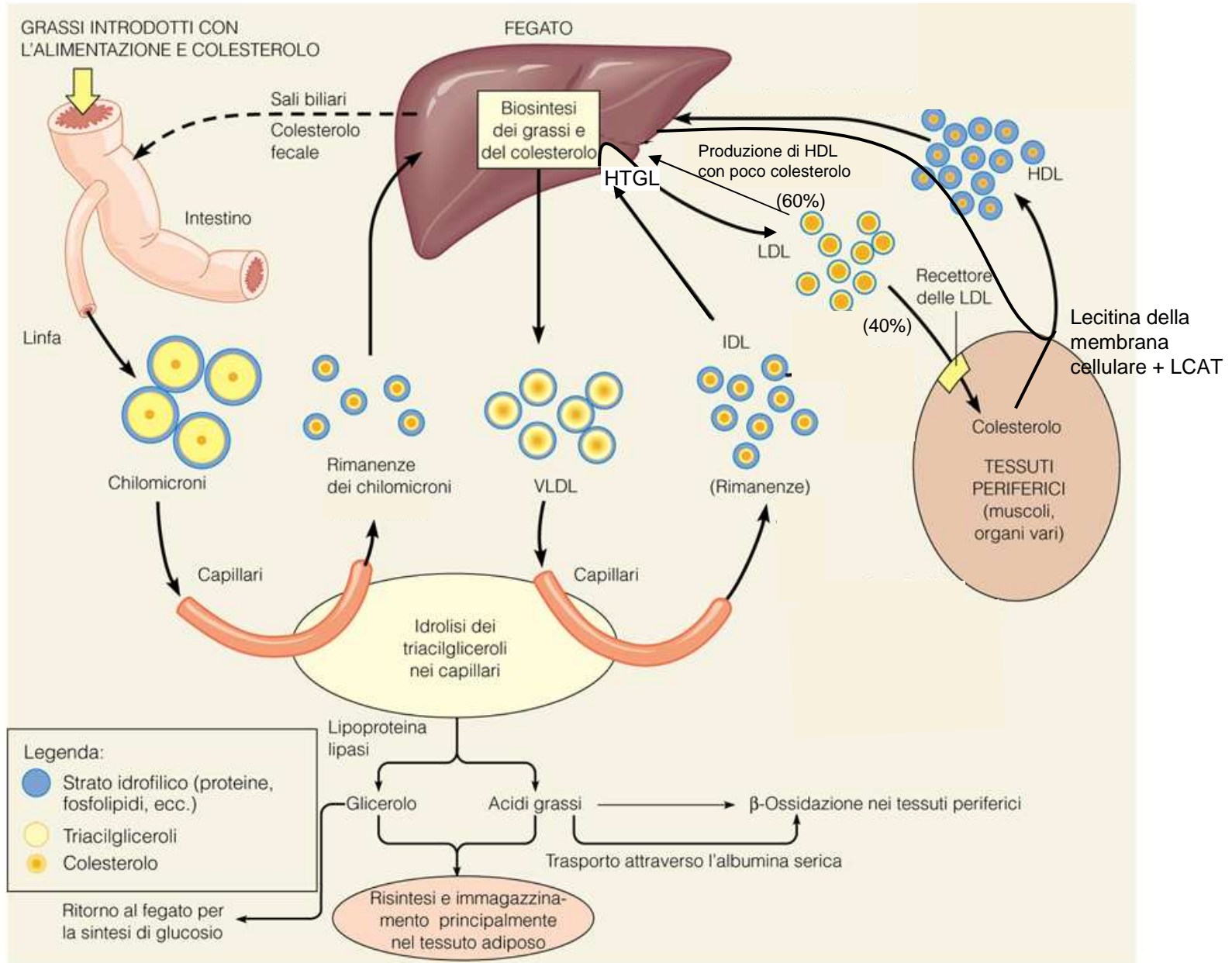


Composizione delle lipoproteine nel plasma umano.

Frazione	Fonte	Densità	Proteine (%)	Lipidi totali (%)	COMPOSIZIONE PERCENTUALE				
					Percentuali della frazione lipidica				
					Triacil-glicerolo	Fosfo-lipidi	Esteri del colesterolo	Colesterolo libero	Acidi grassi liberi
Chilomicroni	Intestino	< 0,96	1-2	98-99	88	8	3	1	–
VLDL Lipoproteine a densità molto bassa	Fegato e (intestino)	0,96-1,006	7-10	90-93	56	20	15	8	1
Lipoproteine a media e bassa densità	VLDL e chilomicroni	1,006-1,019	11	89	30	26	34	9	1
IDL e LDL		1,019-1,063	21	79	13	28	48	10	1
Rimanezze chilom.									
Lipoproteine ad alta densità HDL ₁	Fegato e (intestino)								
HDL ₂		1,063-1,125	33	67	16	43	31	10	–
HDL ₃		1,125-1,210	57	43	13	46	29	6	6
Albumina-Acidi grassi liberi (VHDL)	Tessuto adiposo	> 1,2810	99	1	0	0	0	0	100

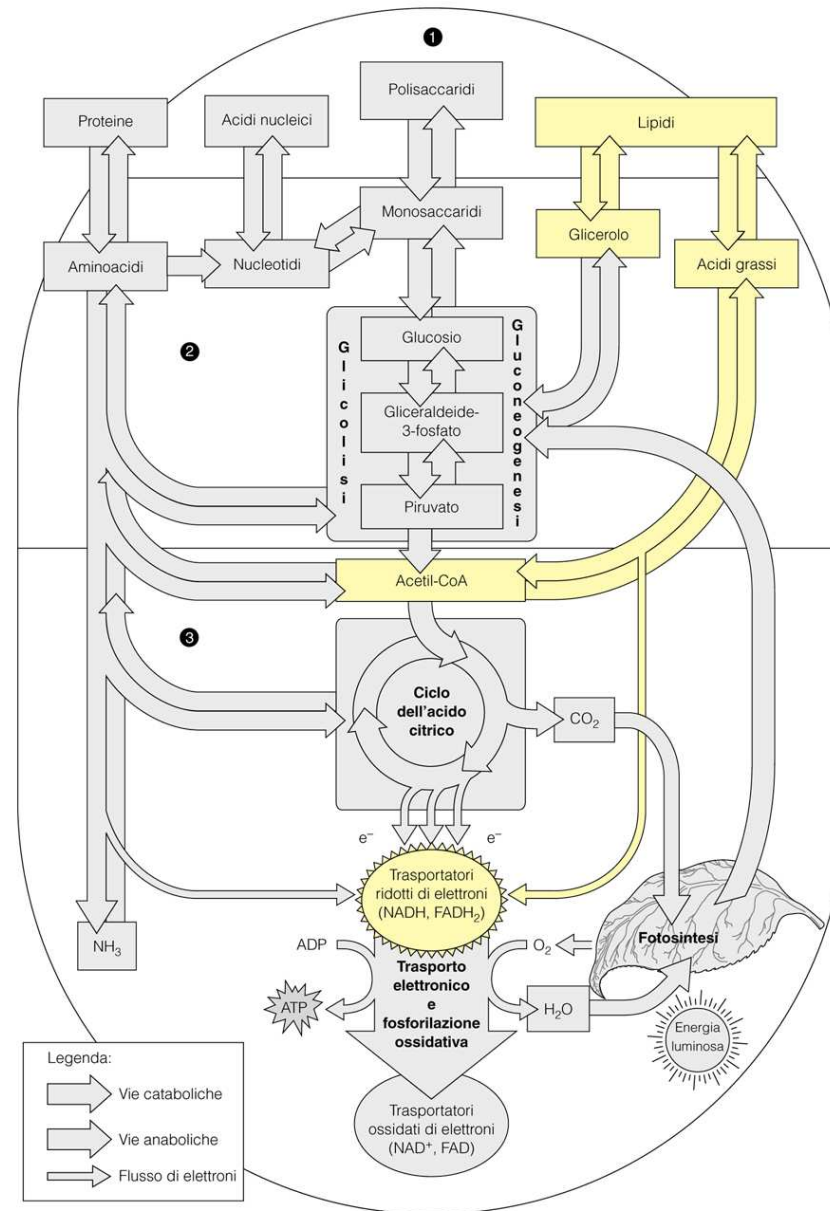
IDL: lipoproteine a densità intermedia.

VIE DI TRASPORTO DELLE LIPOPROTEINE E LORO DESTINO

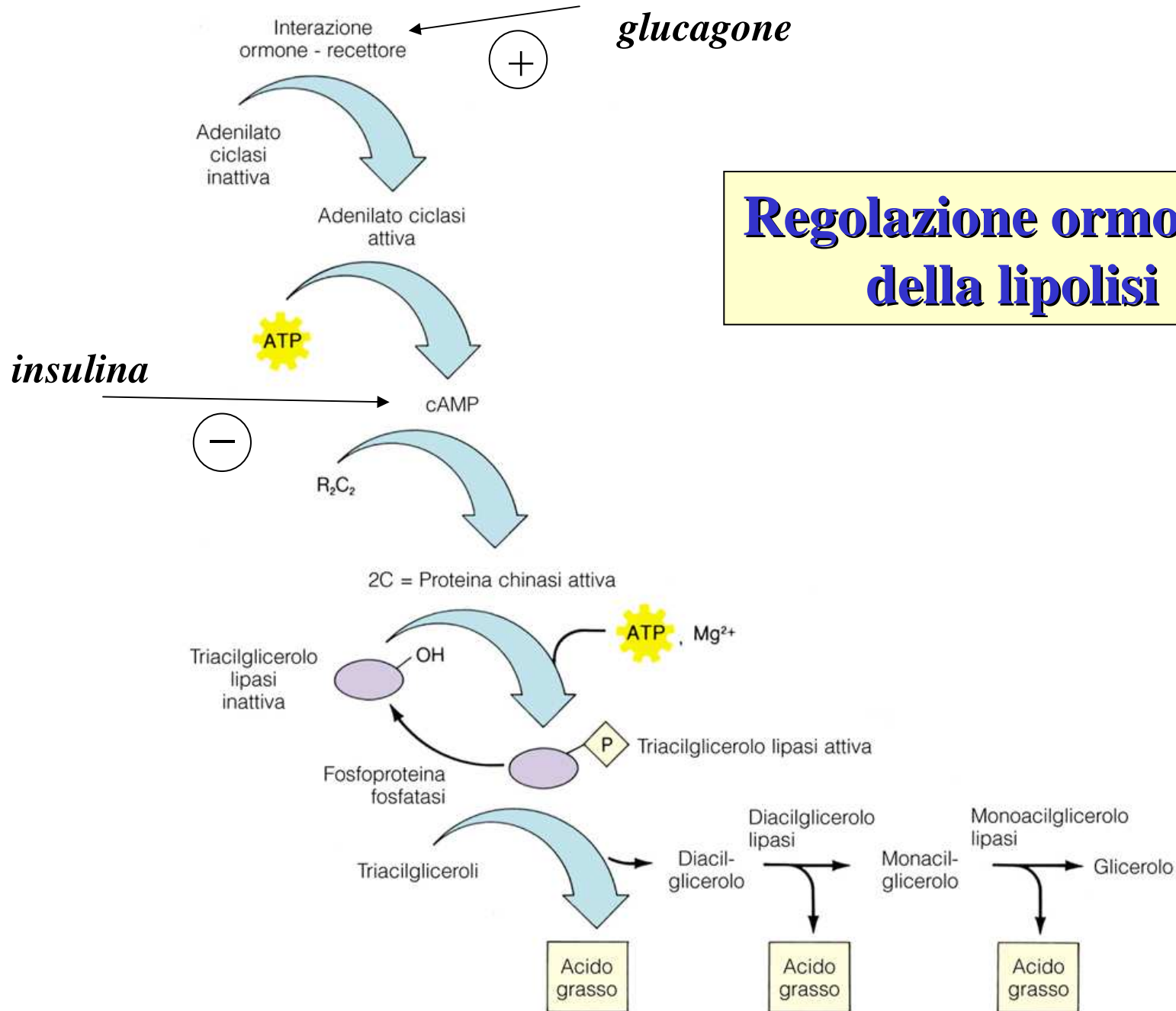


HTGL, trigliceride lipasi dei sinusoidi epatici
 LCAT, lecitina-colesterolo aciltransferasi plasmatica

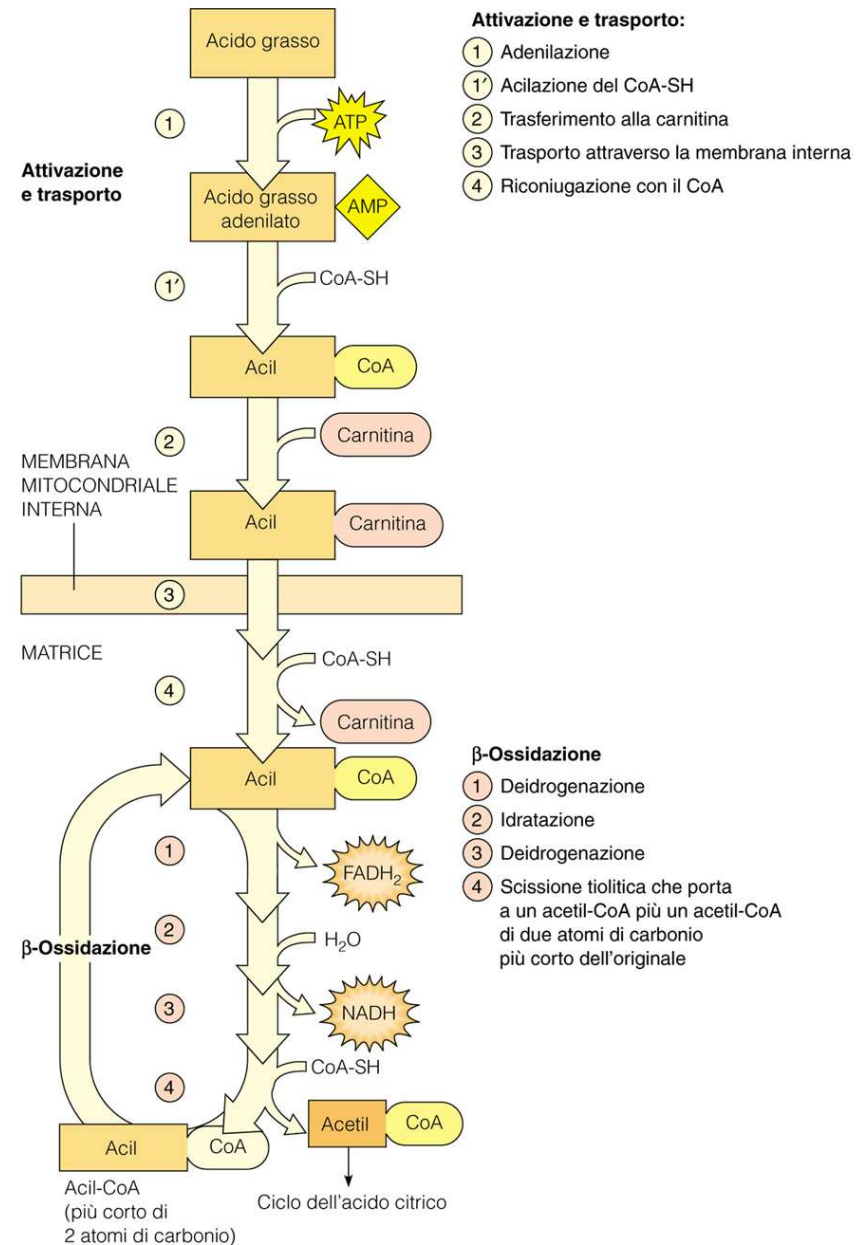
Il metabolismo degli acidi grassi e dei trigliceridi



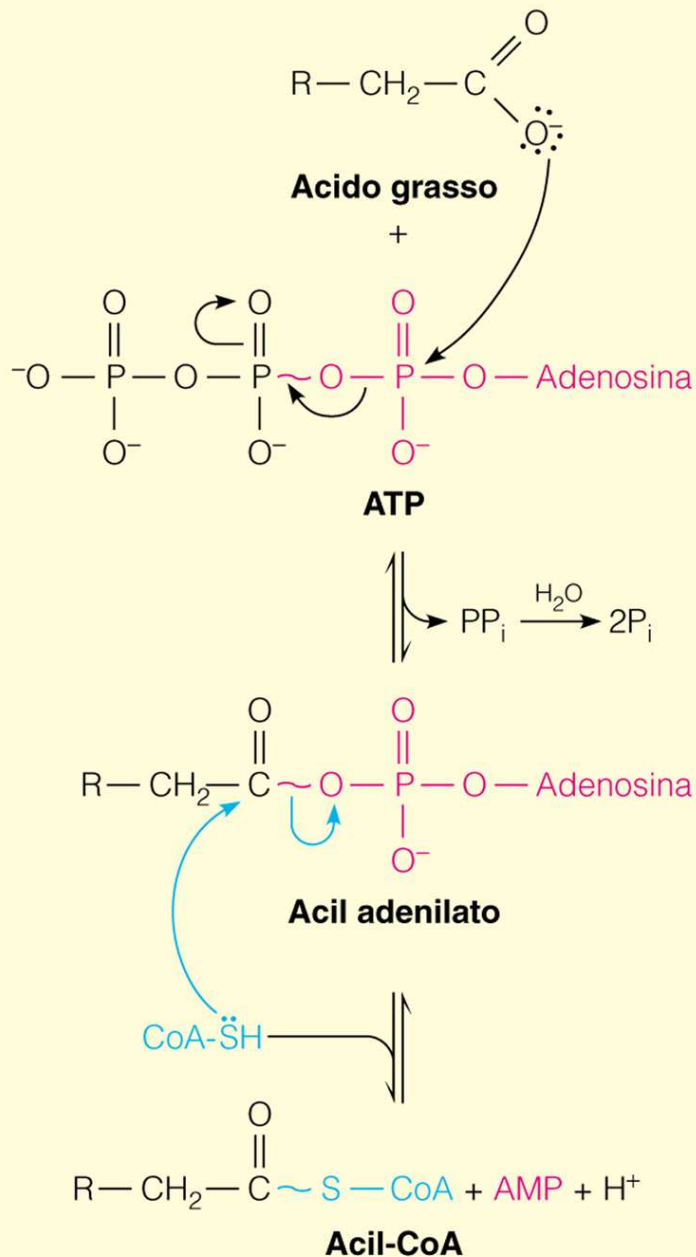
*catecolamine,
glucagone*



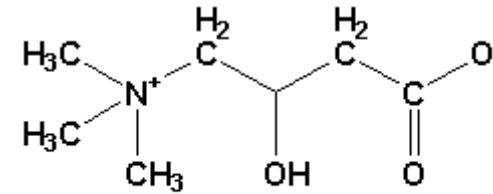
La β -ossidazione degli acidi grassi



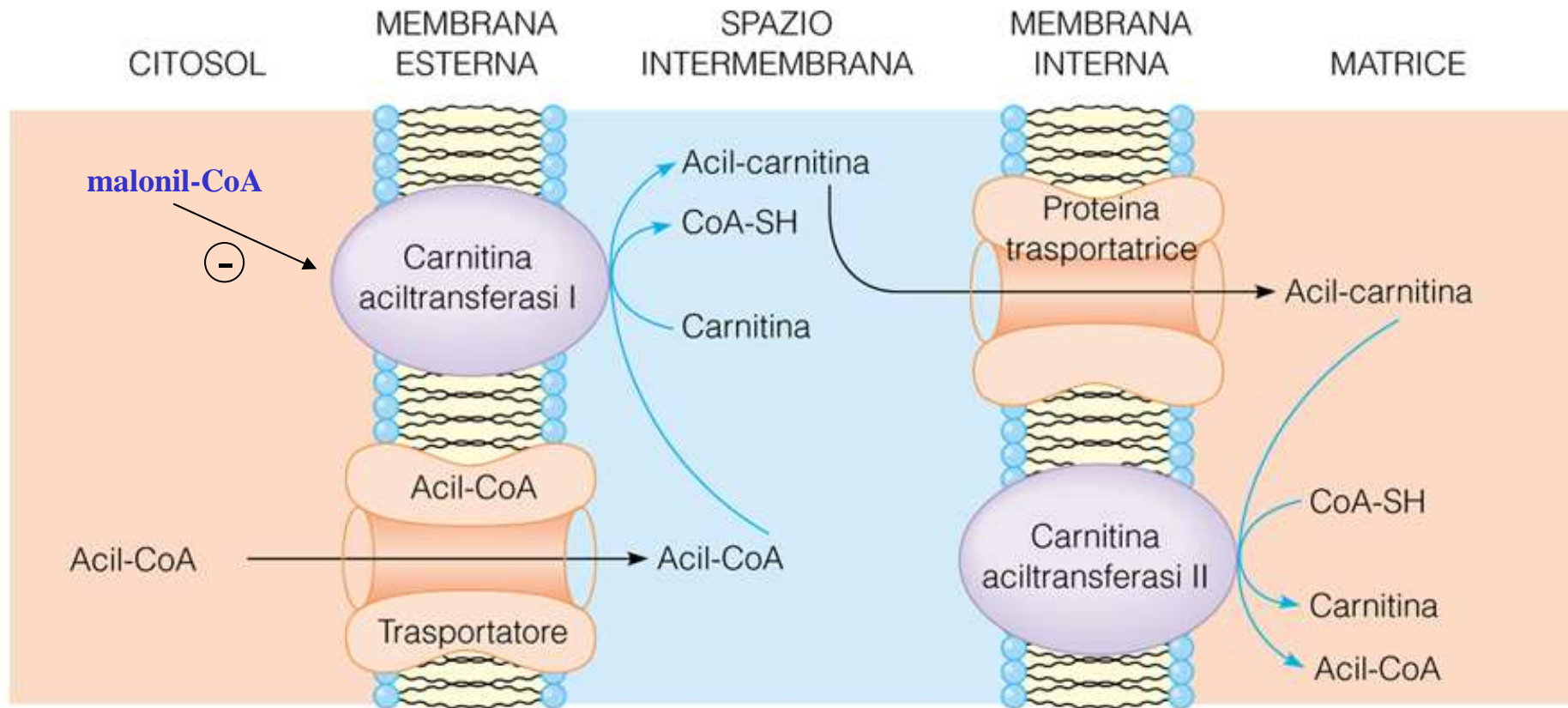
Attivazione dell'acido grasso



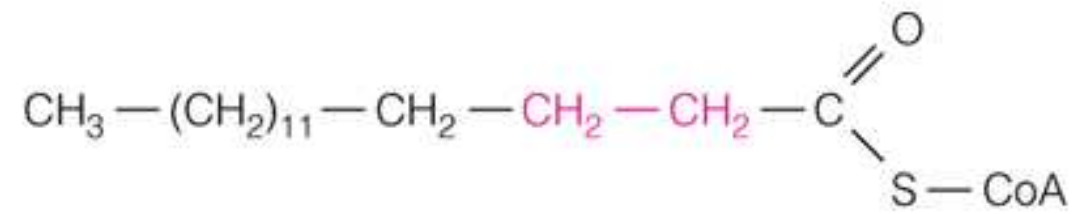
IL CICLO DELLA CARNITINA



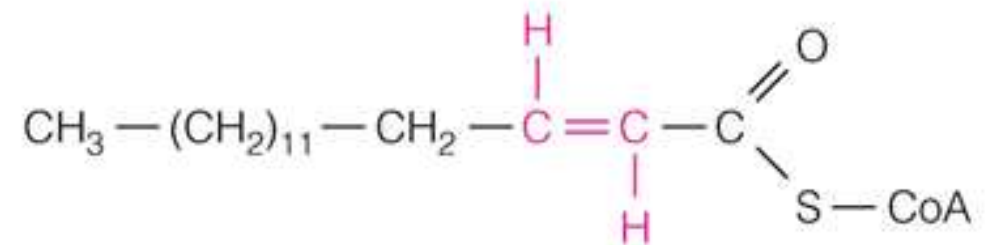
carnitina



Reazioni enzimatiche
della β -ossidazione

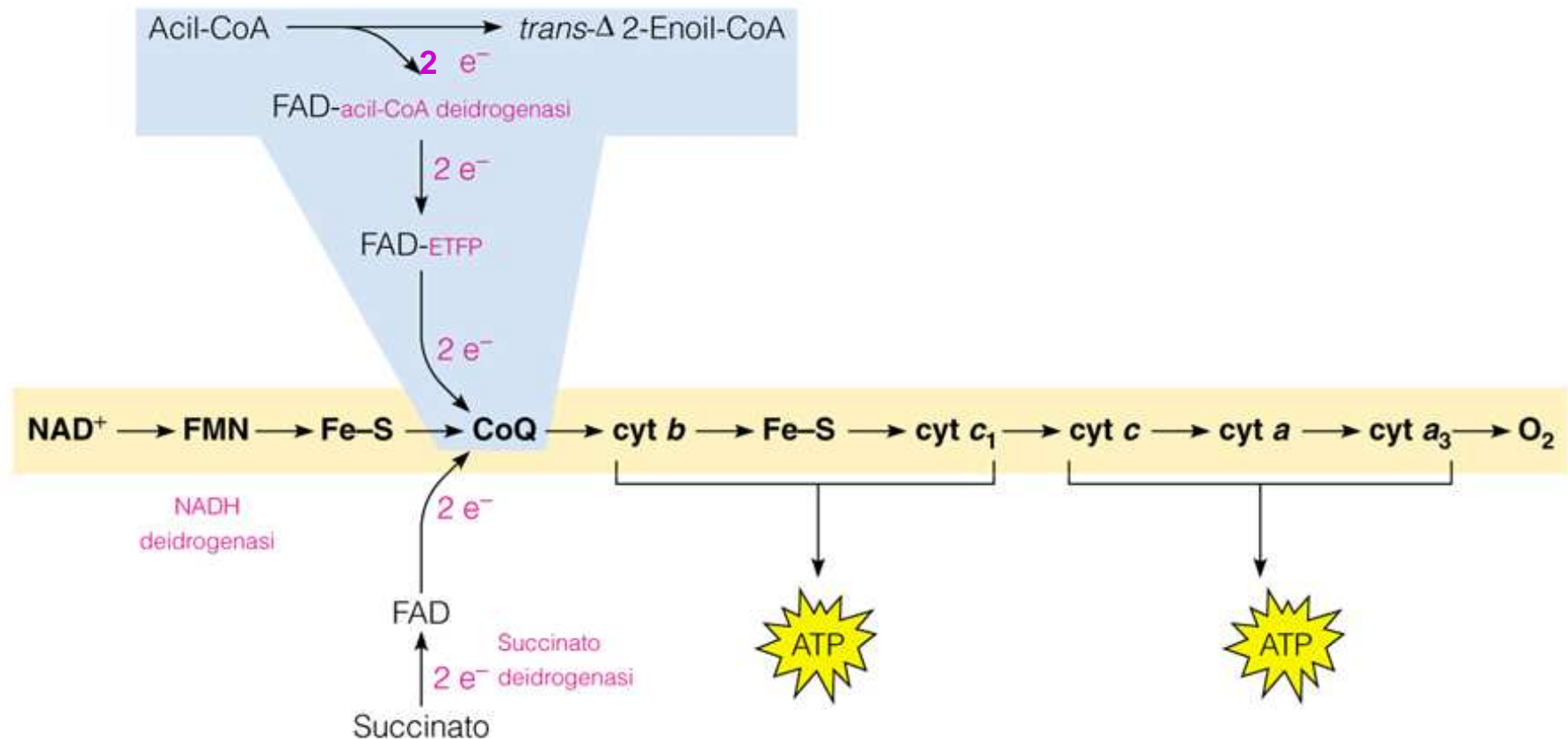


C₁₆ acil-CoA

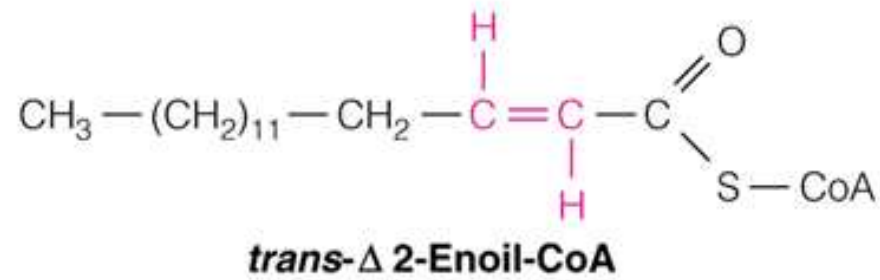


***trans*- Δ 2-Enoil-CoA**

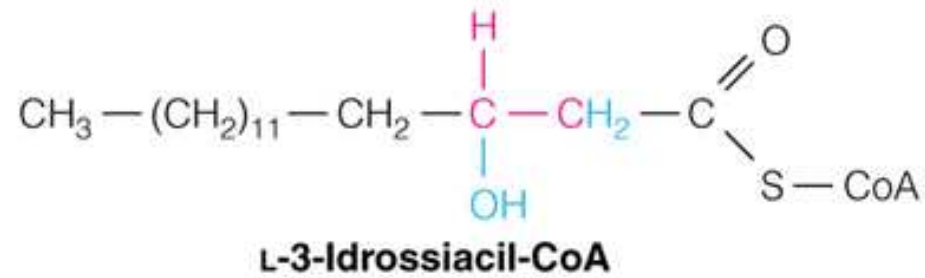
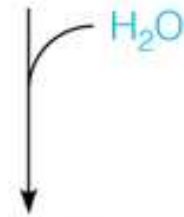
Il destino degli equivalenti di riduzione ottenuti dalla deidrogenazione degli acil-CoA



ETFP = electron-transfer flavoprotein



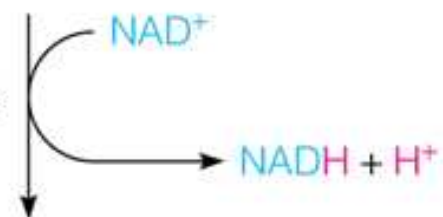
② Idratazione

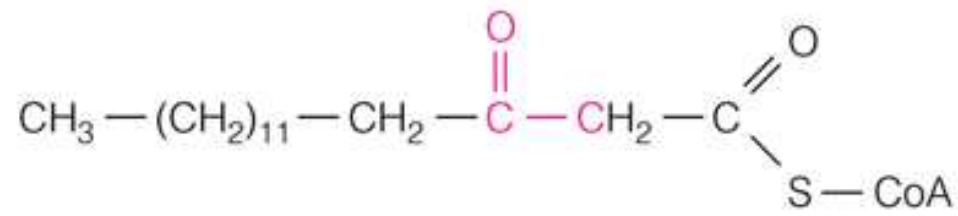


③ Deidrogenazione

NAD^+

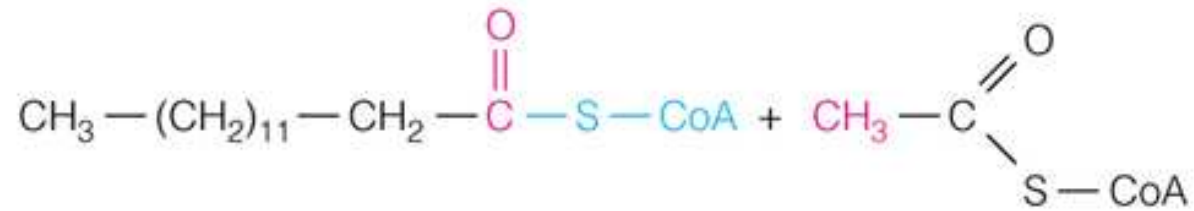
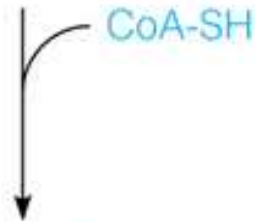
$\text{NADH} + \text{H}^+$

A vertical arrow pointing downwards, with a curved line above it representing the oxidation of NAD+ to NADH + H+. The NAD+ is written in blue, and NADH + H+ is written in pink.



3-Chetoacil-CoA

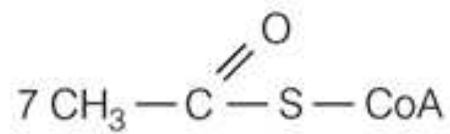
④ Scissione
tiolitica



C₁₄ acil-CoA

Acetil-CoA

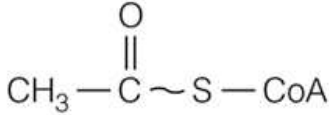
6 ulteriori cicli di
reazioni da 1-4



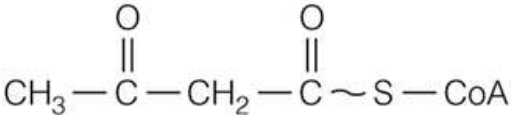
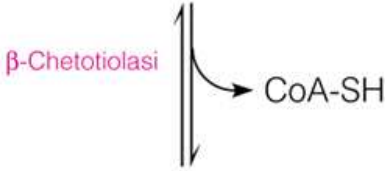
Acetil-CoA

Reaction	ATP Yield
Activation of palmitate to palmitoyl-CoA	-2
Oxidation of 8 acetyl-CoA	$8 \times 12 = 96$
Oxidation of 7 FADH ₂	$7 \times 2 = 14$
Oxidation of 7 NADH	$7 \times 3 = 21$
Net: Palmitate \longrightarrow CO ₂ + H ₂ O	129

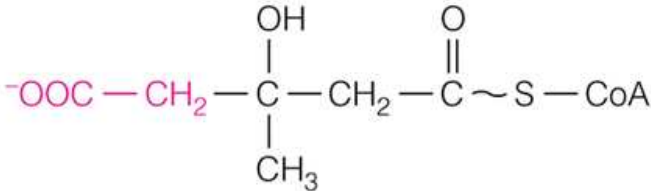
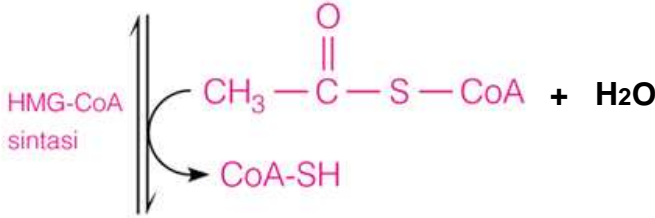
LA CHETOGENESI



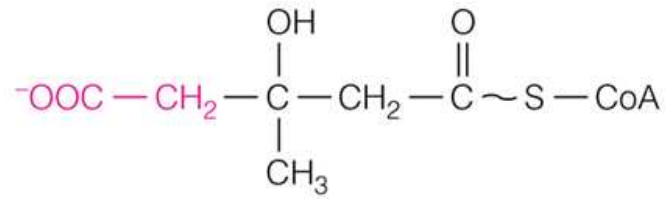
2 Acetil-CoA



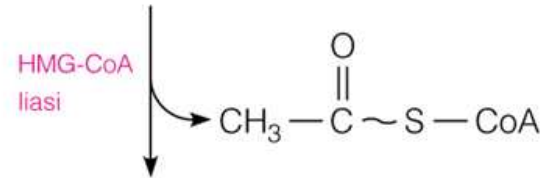
Acetoacetil-CoA



**β -Idrossi- β -metilglutaril-CoA
(HMG-CoA)**

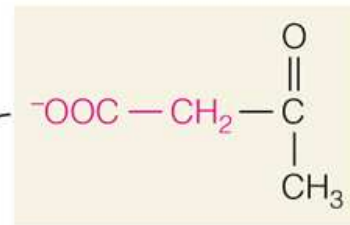


**β-Idrossi-β-metilglutaril-CoA
(HMG-CoA)**

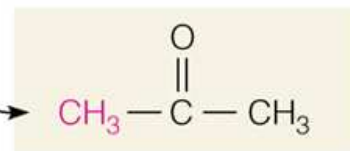


corpi chetonici

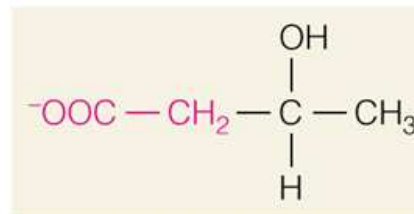
CO₂



Acetoacetato



Acetone



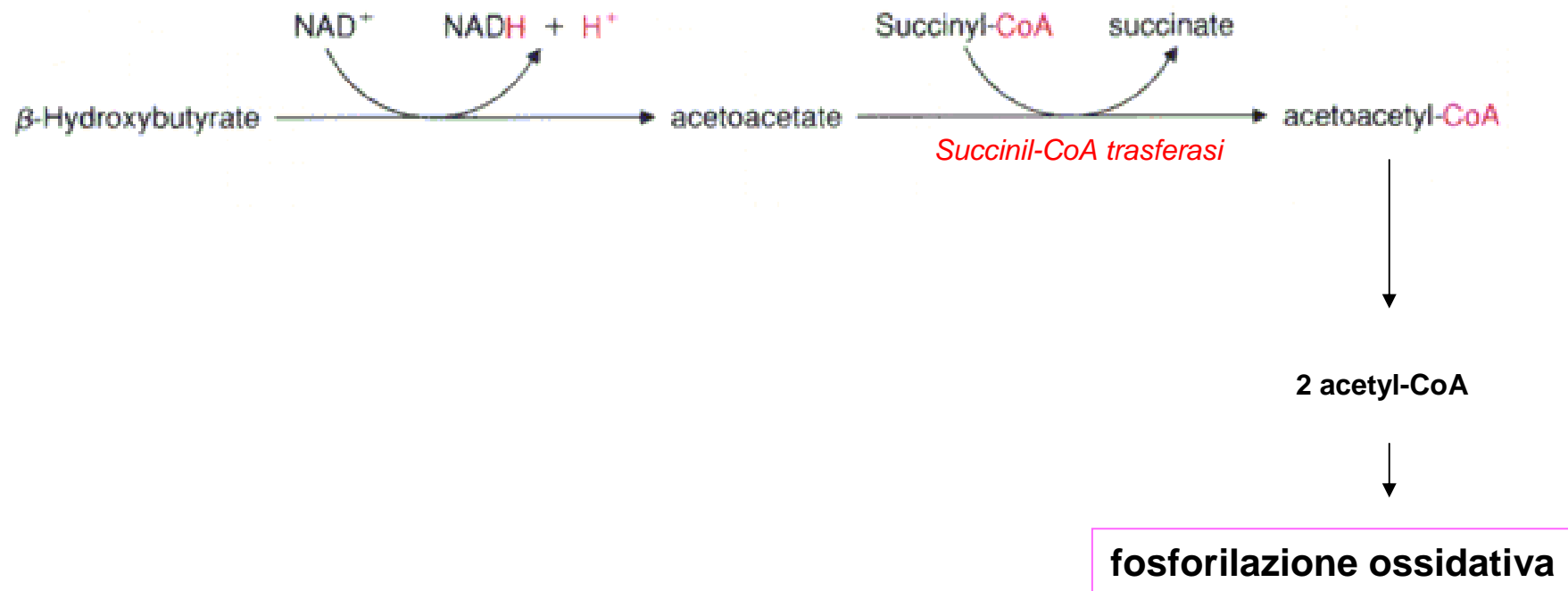
β-Idrossibutirrato

NADH,
H⁺

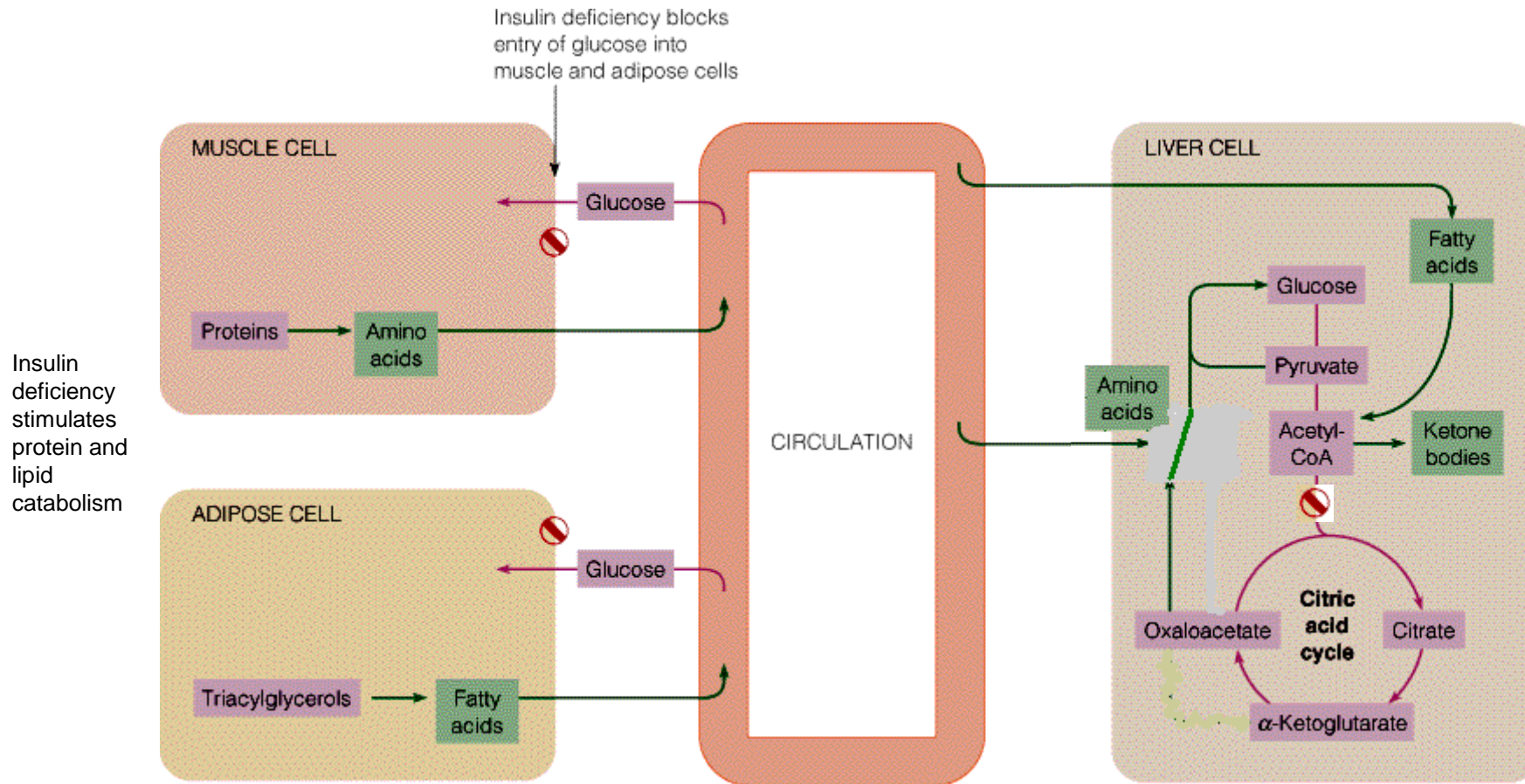
β-Idrossibutirrato
deidrogenasi

NAD⁺

Tessuti extraepatici (mitocondri)

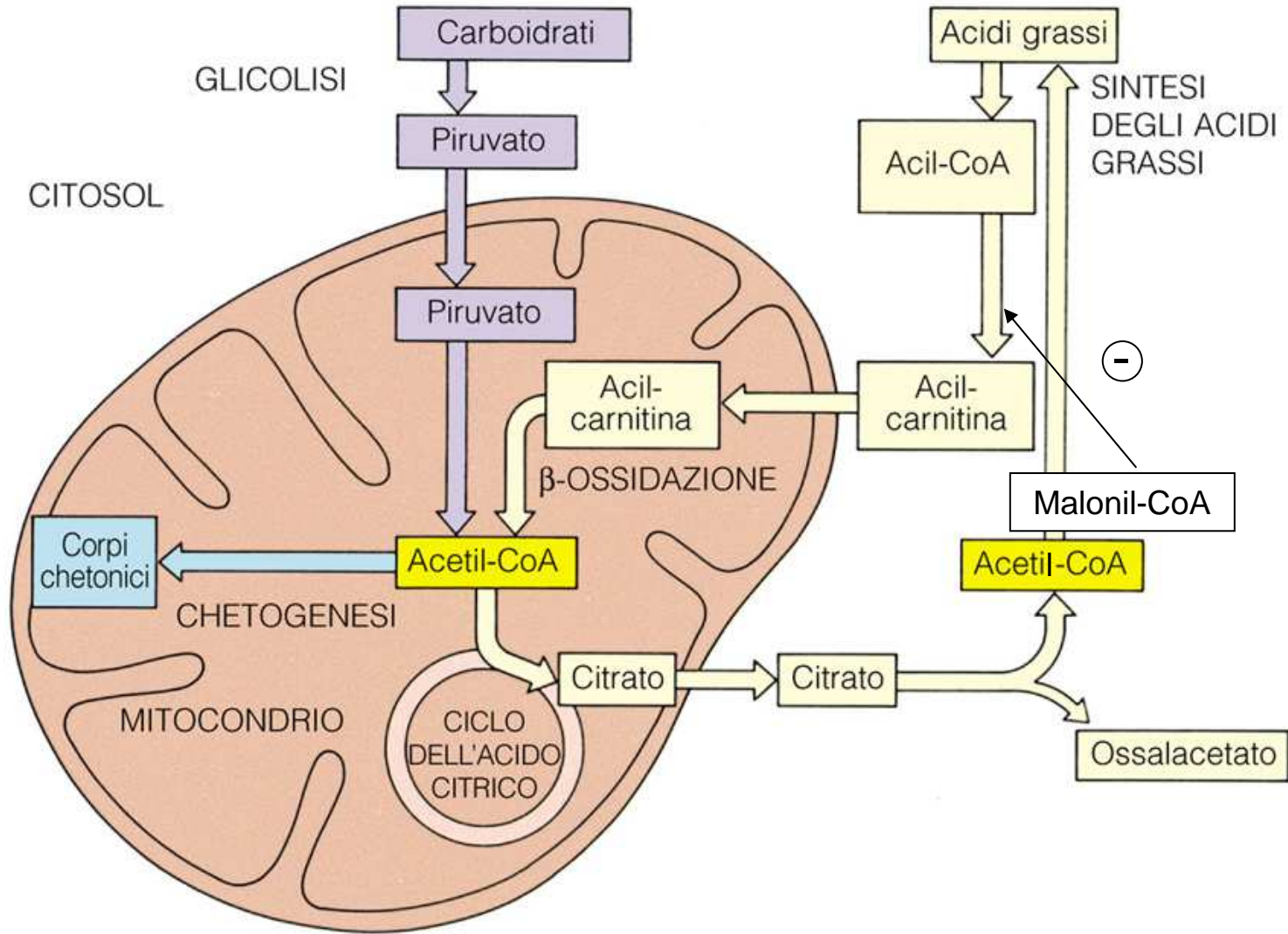


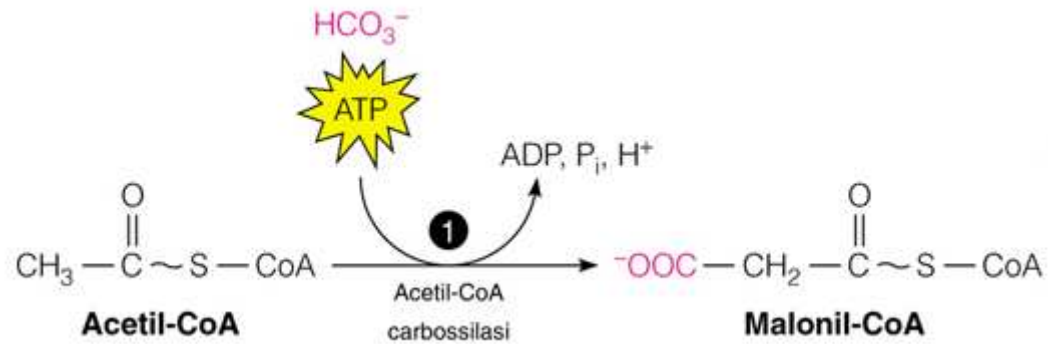
Diabete



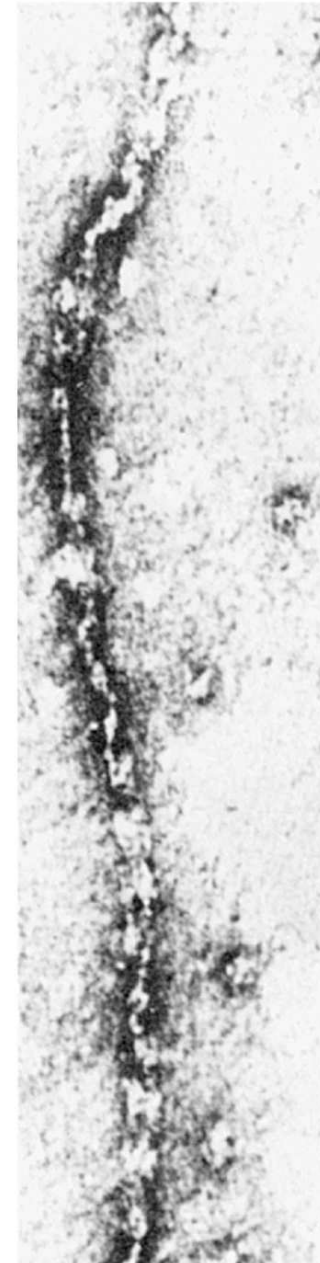
frecce verdi: vie attivate
frecce viola: vie inibite

LA BIOSINTESI DEGLI ACIDI GRASSI





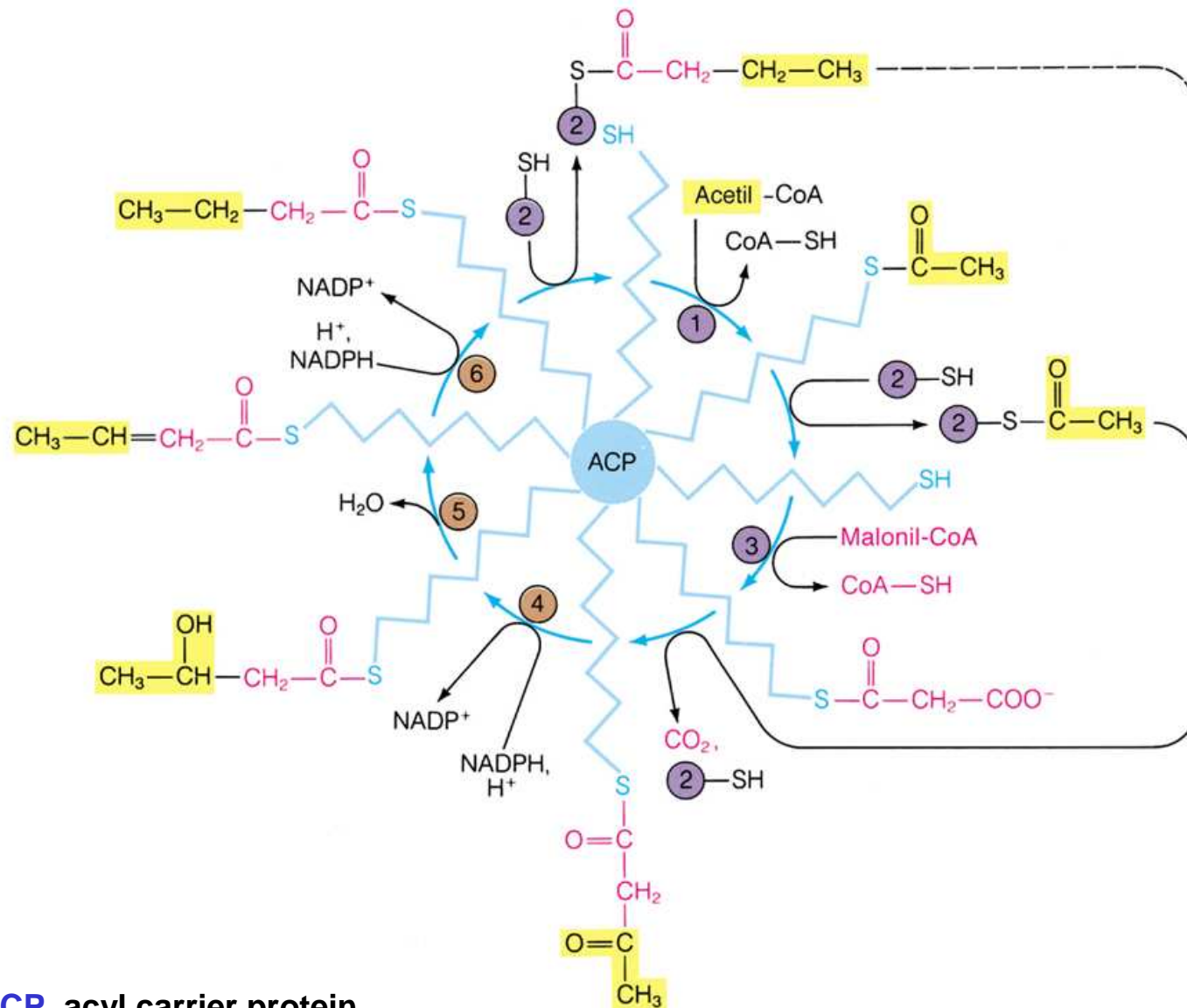
La forma filamentosa,
enzimaticamente attiva, della
acetil-CoA carbossilasi
eucariotica



Il complesso
dell'*acido grasso*
sintasi di lievito



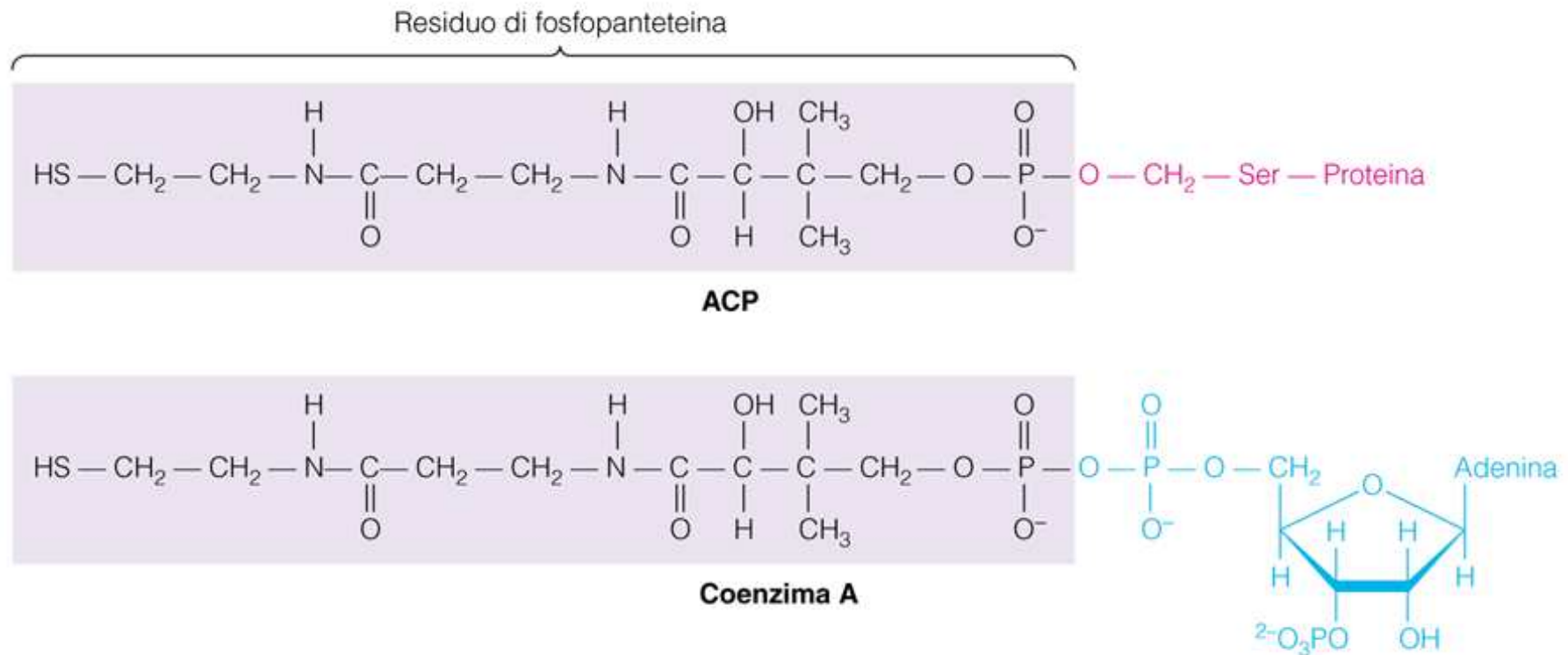
Reazioni catalizzate dal complesso dell'acido grasso sintasi



ACP, acyl carrier protein

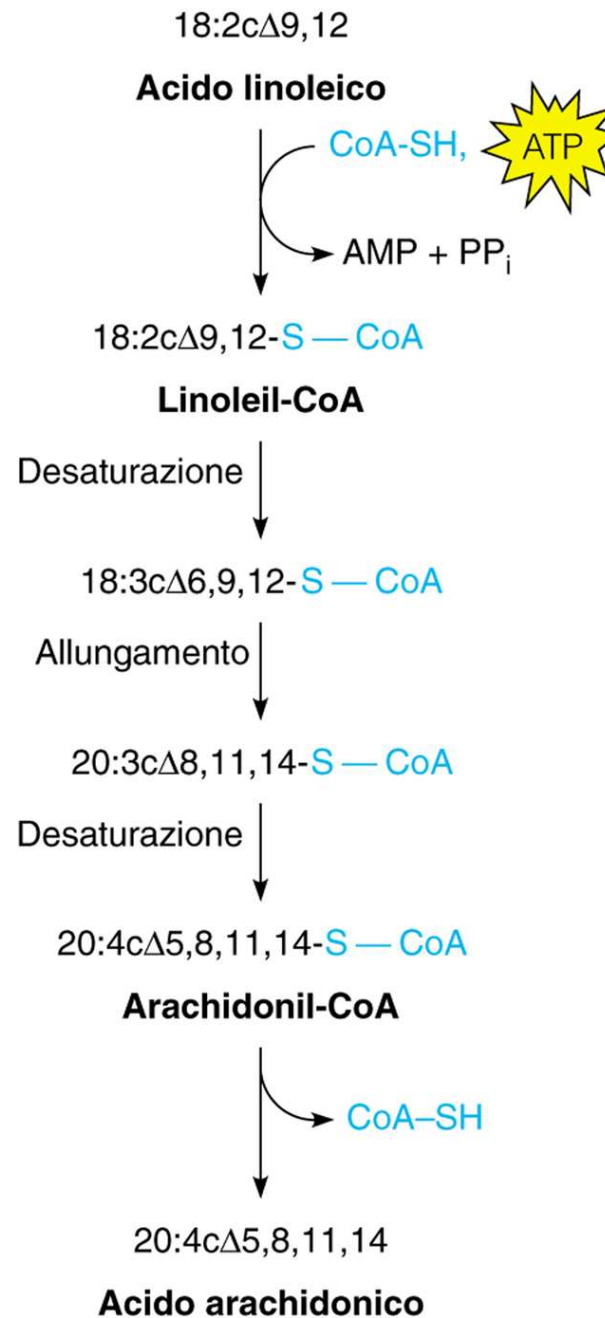
②-SH, subunità dell'ac. grasso sintasi con gruppo sulfidrilico

La fosfopanteteina come unita' reattiva nell'ACP e nel CoA



ACP, acyl carrier protein

La via di conversione
dell'acido linoleico ad
acido arachidonico nei
mammiferi



BIOSINTESI DEI TRIACILGLICEROLI (TRIGLICERIDI)

