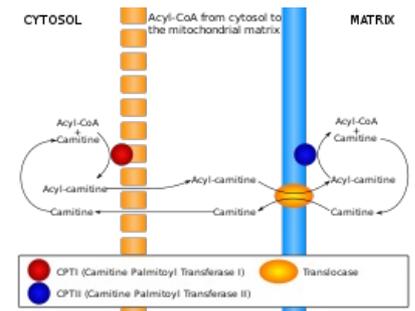


Carnitine transport system

The **carnitine transport system** consists of two transport proteins – *carnitine acyltransferase-1* and *2* (CAT-1,2) – on the outer and inner sides of the mitochondrial membrane. It serves to transfer fatty acids from the cytosol to the mitochondrial matrix. Fatty acids are activated in the cytosol to *acyl-CoA* by *acyl-CoA synthetase*. However, coenzyme A is too large a molecule and would not pass through the membrane. Thus, through *CAT-1*, the acyl is transferred to carnitine. *The resulting acylcarnitine diffuses through the intermembrane space to the CAT-2* transporter, where the acyl is transferred across the membrane and reactivated to acyl-CoA.



a schematic diagram of the carnitine shuttle

Links

Related articles

- Regulation of individual metabolic path
- Compartmentalization of Metabolic Pathways
- Beta oxidation

References

- DUŠKA, František and Jan TRNKA. *Biochemistry in context Part I - basics of energy metabolism*. 1st edition. Prague: Karolinum, 2006. ISBN 80-246-1116-3