

## SLC16 – Monocarboxylate transporter family

Human gene name	Protein name	Aliases	Predominant substrates	Transport type / coupling ions <sup>1)</sup>	Tissue distribution and cellular / subcellular expression	Link to disease	Human gene locus	Sequence accession ID	Splice variants and their features
<a href="#">SLC16A1</a>	MCT1		lactate, pyruvate, ketone bodies	C / H <sup>+</sup> or E / monocarboxylate	ubiquitous	lactate transporter defect, exercise-induced hyperinsulinemic hypoglycemia	1p12	<a href="#">NM_003051</a>	
<a href="#">SLC16A2</a>	MCT8	XPCT, MCT7	T2, rT3, T3, T4	F	liver, heart, brain, thymus, intestine, ovary, prostate, pancreas, placenta, lung, kidney, skeletal muscle	Allan-Herndon-Dudley syndrome (AHDS)	Xq13.2	<a href="#">NM_006517</a>	
<a href="#">SLC16A3</a>	MCT4	MCT3	lactate, pyruvate, ketone bodies	C / H <sup>+</sup>	skeletal muscle, chondrocytes, leukocytes, testis, lung, placenta, heart		17q25	<a href="#">NM_004207</a> <a href="#">NM_001042422</a> <a href="#">NM_001042423</a>	3 splice variants
<a href="#">SLC16A4</a>	MCT5	MCT4		O	brain, muscle, liver, kidney, lung, ovary, placenta, heart		1p13.3	<a href="#">NM_004696</a>	
<a href="#">SLC16A5</a>	MCT6	MCT5		O	kidney, muscle, brain, heart, pancreas, prostate, lung, placenta		17q25.1	<a href="#">NM_004695</a>	
<a href="#">SLC16A6</a>	MCT7	MCT6		O	brain, pancreas, muscle, prostate		17q24.2	<a href="#">NM_004694</a>	
<a href="#">SLC16A7</a>	MCT2		pyruvate, lactate, ketone bodies	C / H <sup>+</sup>	kidney, brain		12q13	<a href="#">NM_004731</a>	
<a href="#">SLC16A8</a>	MCT3	REMP	lactate	C / H <sup>+</sup>	retinal pigment epithelium, choroid plexus	(altered visual function)	22q12.3-q13.2	<a href="#">NM_013356</a>	
<a href="#">SLC16A9</a>	MCT9			O	endometrium, testis, ovary, breast, brain, kidney, adrenal, retina		10q21.1	<a href="#">NM_194298</a>	
<a href="#">SLC16A10</a>	TAT1		aromatic amino acids, T3, T4	F	Kidney (basolateral), intestine, muscle, placenta, heart		6q21-q22	<a href="#">NM_018593</a>	
<a href="#">SLC16A11</a>	MCT11			O	skin, lung, ovary, breast, pancreas, retinal pigment epithelium, choroid plexus		17p13.1	<a href="#">NM_153357</a>	
<a href="#">SLC16A12</a>	MCT12			O	kidney, retina, lung, testis	juvenile cataract with microcornea and glucosuria	10q23.31	<a href="#">NM_213606</a>	
<a href="#">SLC16A13</a>	MCT13			O	breast, bone marrow stem cells		17p13.1	<a href="#">NM_201566</a>	
<a href="#">SLC16A14</a>	MCT14			O	brain, heart, ovary, breast, lung, pancreas retinal pigment epithelium, choroid plexus		2q36.3	<a href="#">NM_152527</a>	

### References:

Original version of the SLC table:

[Halestrap AP, Meredith D.](#) The SLC16 gene family-from monocarboxylate transporters (MCTs) to aromatic amino acid transporters and beyond. *Pflugers Arch.* 2004 Feb;447(5):619-28.

Questions & Comments