

SLC39 – Metal ion transporter family

Human gene name	Protein name	Aliases	Predominant substrates	Transport type / coupling ions	Tissue distribution and cellular / subcellular expression ^{#)}	Link to disease	Human gene locus	Sequence accession ID
SLC39A1	ZIP1	ZIRTL, IRT1	zinc	unknown	widespread / plasma membrane and intracellular vesicles	none known	1q21	NM_014437
SLC39A2	ZIP2	6A1, Eti-1	zinc	unknown	^a prostate, uterus, cervical epithelium, optic nerve, monocytes, / plasma membrane	none known	14q11.1	NM_014579.2
SLC39A3	ZIP3		unknown	unknown	^a widespread	none known	19p13.3	NM_144564 NM_213568
SLC39A4	ZIP4	AE2	zinc	unknown	small intestine, stomach, colon, cecum, kidney / plasma membrane	acrodermatitis enteropathica	8q24.3	NM_017767.2 NM_130849
SLC39A5	ZIP5	LZT-Hs7	unknown	unknown	^a kidney, liver, spleen, colon, stomach, pancreas	none known	12q13.13	NM_173596.2 NM_001135195
SLC39A6	LIV-1		unknown	unknown	^a widespread / unknown	none known	18q12.1	NM_012319.3 NM_001099406
SLC39A7	KE4	RING5	manganese	unknown	^a widespread / endoplasmic reticulum	none known	6p21.3	NM_006979.2 NM_001077516
SLC39A8	BIGM103	LZT-Hs6	zinc	unknown	^a widespread / unknown	none known	4q22-q24	NM_022154 NM_001135146 NM_001135147 NM_001135148
SLC39A9			unknown	unknown	^a widespread / unknown	none known	14q24.1	NM_018375.3
SLC39A10		LZT-Hs2	unknown	unknown	^a widespread / unknown	none known	2q33.1	NM_020342.2 NM_001127257
SLC39A11			unknown	unknown	^a widespread / unknown	none known	17q25.1	NM_139177.3
SLC39A12		LZT-Hs8	unknown	unknown	^a brain, lung, testis, retina / unknown	none known	10p12.33	NM_152725.3
SLC39A13	ZIP13	LZT-Hs9	zinc	unknown	connective tissue, bone, cartilage, tooth, skin, eye, osteoblasts, odontoblasts, chondrocytes, fibroblasts / Golgi	spondylocheiro dysplastic form of Ehlers-Danlos syndrome	11p11.12	NM_152264.3 NM_001128225
SLC39A14	ZIP14	LZT-Hs4	zinc	unknown	^a widespread / unknown	none known	8p21.2	NM_015359.4 NM_001128431 NM_001135153 NM_001135154

#) a: Based in part or total on representations in the [Unigene EST database](#)

References:

Original version of the SLC table:

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SLC39A4 reference:

[Nakano A](#), [Nakano H](#), [Nomura K](#), [Toyomaki Y](#), [Hanada K](#). Novel SLC39A4 mutations in acrodermatitis enteropathica. *J Invest Dermatol*. 2003 Jun;120(6):963-6.

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[Fukada T et al](#). The zinc transporter SLC39A13/ZIP13 is required for connective tissue development; its involvement in BMP/TGF-beta signaling pathways. *PLoS One*. 2008;3(11):e3642.

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