

SLC11 – Proton-coupled 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	Splice variants and their features
SLC11A1	NRAMP1	NRAMP, LSH	Mn ²⁺ , Fe ²⁺ , and other divalent metal ions	C / H ⁺	phagolysosomes of phagocytes (macrophages, neutrophils)	(mycobacterium tuberculosis, Buruli ulcer, autoimmune disease; e.g. IDDM)	2q35	NM_000578	
SLC11A2	DMT1	NRAMP2, DCT1	Fe ²⁺ , Cd ²⁺ , Co ²⁺ , Cu ¹⁺ , Mn ²⁺ , Ni ²⁺ , Pb ²⁺ , Zn ²⁺	C / H ⁺	widespread, including intestine (duodenum), erythroid cells, kidney, lung, brain, testis (Sertoli cells), thymus	hypochromic microcytic anemia, (Parkinson's disease)	12q13	NM_000617	multiple splice forms (from 1A or 1B exons at 5' end, and with or without 3' iron-responsive element)

*) C: Cotransporter; E: Exchanger; F: Facilitated transporter; O: Orphan transporter

§ IREG1 (also known as Ferroportin-1, MTP1, or FPN1) was previously assigned to SLC11A3. However, IREG1 bears no significant homology to SLC11A1 and SLC11A2, and has therefore been reassigned to SLC40A1.

References:

Original version of the SLC table:

[Mackenzie B, Hediger MA.](#) SLC11 family of H(+)-coupled metal-ion transporters NRAMP1 and DMT1. *Pflugers Arch.* 2004 Feb;447(5):571-9.

Questions & Comments