A mathematical modeling toolbox for ion channels and transporters across cell membranes

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The following supplementary material is from " A mathematical modeling toolbox for ion channels and transporters across cell membranes" manuscript. It contains an overview of all equations related to Ion channels, Pumps, Cotransporters, and Symporters, organized in a table form. The detailed transporters along with the descriptions of their equatuons can be found from here.

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3.7. Amino Acid Transporters

Amino Acid Transporters	Ref
$$J_{AAT}^{M-N(a)} = P_{AAT}^{M-N(a)} exp\left(\frac{V_m^{M-N(a)} F}{RT}\right) \times \frac{[AminoAcid]_N [Na]_N - [AminoAcid]_M [Na]_M exp\left(-\frac{V_m^{M-N(a)} F}{RT}\right)}{1 - exp\left(-\frac{V_m^{M-N(a)} F}{RT}\right)} \quad (142)$$	[58]

Table 26: The corresponding equations describing the flux transported via amino acid salt symporter across the cell membrane