

Table 3. Different levels of modulation/regulation of carrier activity

Level	Principle	Influence on	Time scale
1	availability of transport substrates, presence of competing ligands	carrier activity, apparent K_M	short (ms)
2	modulation of kinetic parameters and driving forces (pH, cotransport ions, ion (Na^+ , K^+) gradients, ΔpH , $\Delta\Psi$)	carrier activity, apparent K_M	short (ms)
3	presence of effector ligands (allosteric activators and inhibitors)	V_{max} and/or K_M	short (ms-s)
4	expression of carrier proteins (induction and repression)	carrier concentration	long (min-h)