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Topiramate

National Cancer Institute

Source

National Cancer Institute. *Topiramate*. NCI Thesaurus. Code C47764.

A sulfamate-substituted monosaccharide with anticonvulsant property. Although the mechanism of action has not been fully elucidated, topiramate antagonizes kainate/AMPA subtype of the glutamate receptors, which are ligand-activated cation channels that mediate the fast component of excitatory postsynaptic currents in neurons of the central nervous system. This antagonistic action results in stabilizing hyper-excited neural membranes, inhibiting repetitive neuronal firing, and decreasing propagation of synaptic impulses, thereby impedes seizure occurrences. In addition, this agent augments gamma-aminobenzoic acid (GABA) activity and thereby attenuating GABAergic inhibitory transmission.