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Ethaselen

National Cancer Institute

Source

National Cancer Institute. *Ethaselen*. NCI Thesaurus. Code C116713.

An orally bioavailable organoselenium inhibitor of thioredoxin reductase 1 (TrxR1), with potential antineoplastic activity. Upon oral administration, ethaselen specifically binds to the selenocysteine-cysteine redox pair in the C-terminal active site of TrxR1 and inhibits its activity, which may result in growth inhibition and the induction of apoptosis in TrxR1 overexpressing tumor cells. TrxR1, upregulated in many cancer cell types, plays a key role in various redox-dependent cellular pathways, regulates transcription factor activity, inhibits apoptosis, and promotes cell growth and survival.