

[Open Peer Review on Qeios](#)

ERK1/2 Inhibitor ASN007

National Cancer Institute

Source

National Cancer Institute. *ERK1/2 Inhibitor ASN007*. NCI Thesaurus. Code C150248.

An orally bioavailable inhibitor of the extracellular signal-regulated kinases 1 (ERK1) and 2 (ERK2), with potential antineoplastic activity. Upon oral administration, ASN007 specifically binds to and inhibits the serine/threonine-protein kinase activities of both ERK1 and ERK2, thereby preventing the phosphorylation of ERK1/2 substrates and the activation of mitogen-activated protein kinase (MAPK)/ERK-mediated signal transduction pathways. This results in the inhibition of ERK-dependent proliferation and survival of tumor cells. The MAPK/ERK pathway, also known as the RAS/RAF/MEK/ERK pathway, is hyperactivated in a variety of tumor cell types due to mutations in upstream targets. It plays a key role in the proliferation, differentiation and survival of tumor cells.