mTOR inhibitor

mTOR inhibitors are a class of drugs that inhibit the mechanistic target of rapamycin (mTOR), which is a serine threonine protein kinase that belongs to the family of phosphatidylinositol-3 kinase (PI3K) related kinases (PIKKs). mTOR regulates cellular metabolism, growth, and proliferation by forming and signaling through two protein complexes, mTORC1 and mTORC2.

The most established mTOR inhibitors are so-called rapalogs (rapamycin and its analogs), which have shown tumor responses in clinical trials against various tumor types [1].

see Everolimus

see Sirolimus or Rapamycin.

A report of Chelliah et al. from the Stanford University School of Medicine, Palo Alto, California, suggests the benefit of a mammalian target of rapamycin inhibitor as an adjuvant therapy for surgical embolization of complex, extracranial head and neck arteriovenous malformations. The optimal dosing and therapeutic duration of sirolimus treatment before and after embolization remain to be determined [2].

1)
Pópulo, Helena; Lopes, José Manuel; Soares, Paula (2012). “The mTOR Signalling Pathway in Human Cancer”. International Journal of Molecular Sciences. 13 (12): 1886–918. PMC 3291999 Freely accessible. PMID 22408430. doi:10.3390/ijms13021886.

2)
Chelliah MP, Do HM, Zinn Z, Patel V, Jeng M, Khosla RK, Truong MT, Marqueling A, Teng JMC. Management of Complex Arteriovenous Malformations Using a Novel Combination Therapeutic Algorithm. JAMA Dermatol. 2018 Sep 19. doi: 10.1001/jamadermatol.2018.3039. [Epub ahead of print] PubMed PMID: 30326494.