

Osteopontin

Osteopontin (OPN) is a secreted [extracellular matrix](#) (ECM) [glycoprotein](#) that is involved in both physiological and pathological processes in a wide range of [tissue](#) ¹⁾.

Osteopontin (OPN) is overexpressed in [glioma](#) tissues and had an important anti-apoptotic effect. Furthermore, overexpression of OPN was observed following [chemotherapy](#). To elucidate whether OPN plays a role in chemotherapy resistance and to investigate its downstream [signaling pathway](#), this study used small interfering RNA (siRNA) to silence the expression of OPN in U251 human neuronal glioma astrocytoma cells. OPN downregulation in U251 cells enhanced the apoptotic effects induced by temozolomide (TMZ) and cisplatin (DDP). Furthermore, OPN siRNA suppressed the nuclear factor κ -light-chain-enhancer of activated B cells (NF- κ B) activation and B cell lymphoma 2 (Bcl-2) expression that was induced by chemotherapy. Taken together, these results demonstrated that the expression levels of OPN are involved in glioma chemoresistance. Knockdown of OPN through siRNA enhanced the effects of TMZ and DDP chemotherapy by targeting the NF- κ B/Bcl-2 pathway ²⁾.

Osteopontin in subarachnoid hemorrhage

see [Osteopontin in subarachnoid hemorrhage](#)

¹⁾

Mazzali M, Kipari T, Ophascharoensuk V, Wesson JA, Johnson R, Hughes J. Osteopontin—a molecule for all seasons. QJM. 2002 Jan;95(1):3-13. Review. PubMed PMID: 11834767.

²⁾

Qian C, Li P, Yan W, Shi L, Zhang J, Wang Y, Liu H, You Y. Downregulation of osteopontin enhances the sensitivity of glioma U251 cells to temozolomide and cisplatin by targeting the NF- κ B/Bcl-2 pathway. Mol Med Rep. 2014 Nov 14. doi: 10.3892/mmr.2014.2951. [Epub ahead of print] PubMed PMID: 25405848.

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