SENP3

SUMO1/sentrin/SMT3 specific peptidase 3, also known as SENP3, is a protein which in humans is encoded by the SENP3 gene.

SENP3 is associated and regulated by B23/nucleophosmin/NPM1 and involved in the regulation of ribosome biogenesis. SENP3 may be regulated by Arf-Mdm2-p53 pathway.

SUMO-specific proteases 3 (SENP3), a member of the small ubiquitin-like modifier specific protease family, was identified as an isopeptidase that deconjugates SUMOylation (The covalent modification by SUMO) of modified protein substrates. It is reported that SUMO-2/3 conjugation, a member of SUMOylation, presented neuroprotection.

High oxidative stress level following subarachnoid hemorrhage SAH induced rising of SENP3. And inhibition of SENP3 by lentivirus induces suppression of apoptosis in experimental subarachnoid hemorrhage in rats.

When SENP3 accumulated by high oxidative stress, caspase 3 activated subsequently. And it leads to more severe apoptosis than physiological [1)].

1)
Yang YQ, Li H, Zhang XS, Li W, Huang L, Yu Z, Jiang T, Chen Q, Hang CH. Inhibition of SENP3 by lentivirus induces suppression of apoptosis in experimental subarachnoid hemorrhage in rats. Brain Res. 2015 Jul 4. pii: S0006-8993(15)00503-X. doi: 10.1016/j.brainres.2015.06.032. [Epub ahead of print] PubMed PMID: 26151898.