

Labmix24 GmbH Kesseldorfer Rott 24 46499 Hamminkeln Germany 
 Tel:
 +49 (0)

 Fax:
 +49 (0)

 Web:
 www.la

 E-Mail:
 info@la

+49 (0) 2852 96064 00 +49 (0) 2852 96064 24 www.labmix24.com info@labmix24.com

## Anti-phospho SIRT1 (Ser682) Antibody from rabbit, purified by affinity chromatography

Art. ID

SAF-ABE1392

ΕA

Unit

## **Description**

NAD-dependent protein deacetylase sirtuin-1 (UniProt Q96EB6, also known as hSIR2, hSIRT1, NAD-dependent deacetylase sirtuin-1, Regulatory protein SIR2 homolog 1, Sir2-like 1, SIR2-like protein 1, SIR2alpha, Sirtuin type 1) is encoded by the SIRT1 (also known as SIR2L1) gene (Gene ID 23411) in human. Sirtuins constitute a family of NAD+-dependent deacetylases found in nearly all organisms studied. Sirtuins have been implicated in the regulation of multiple processes, including aging, transcription, apoptosis, and stress resistance. Full-length SirT1 (FLSirT1) plays an important role in human cartilage homeostasis and chondrocyte survival by mediating the expression of major cartilage anabolic components, collagen 2(I) and aggrecan. The generation of the transcriptionally inactive 75-kDa fragment (75SirT1) via site-specific cleavage of FLSirT1 at amino acid 533 by cathepsin B is an anti-apoptotic mechanism to promote human osteoarthritic (OA) chondrocytes survival following exposure to proinflammatory cytokines. The 5SirT1 fragment is shown to associate with cytochrome c and likely blocks downstream apoptosome assembly. Phosphorylation plays an important role in modulating SirT1 activity. Multiple kinases and their corresponding SirT1 phosphorylation sites have been identified, including pT344 targeted by AMPK, pT530 and pS540 targeted by Cdk1/Cyclin B, pS46 (mouse) or pS47 (human) targeted by JNK1, pT522 targeted by DYRK1A & DYRK3, as well as pS27 and pS47 targeted by CaMKKbeta.