

Product Data Sheet

Product Name: BNTA
Cat. No.: GC60650

Chemical Properties

Cas. No. 685119-25-9

SMILES O=C(NC1=C(Br)SC=C1S(=O)(C2=CC=CC=C2)=O)C3=CC=CC=C3Cl

Formula $C_{17}H_{11}BrClNO_3S_2$ M.Wt 456.76

Solubility DMSO : 50 mg/mL Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

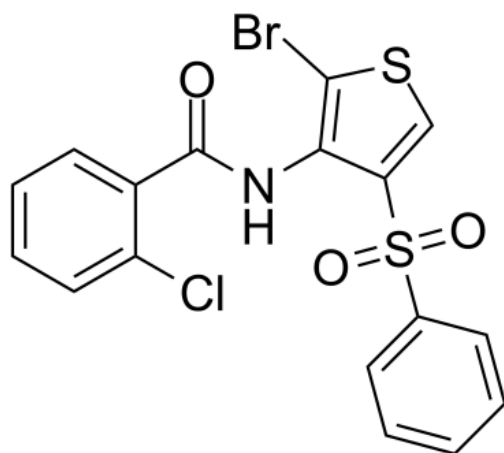
Caution: Product has not been fully validated for medical applications. For research use only.

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Structure



Background

BNTA, a potent extracellular matrix (ECM) modulator, facilitates cartilage structural molecule synthesis on chondrocytes by activating superoxide dismutase 3 (SOD3). BNTA promotes cartilage extracellular matrix generation and inhibits osteoarthritis development. BNTA has the potential for the research of osteoarthritis[1].

BNTA (0.01-10 μ M; 1-7 d) does not decrease cell viability of human osteoarthritis chondrocytes and rat primary chondrocytes[1]. BNTA (0.1 μ M; 2 d) increases SOX9 protein markedly[1]. BNTA (0.1 μ M; 2 d) remarkably increases the COL2A1 and SOX9 protein levels in IL1 β -induced rat OA chondrocytes[1]. BNTA (10 μ M; 5 d) increases proteoglycan staining in ATDC5 cells[1]. BNTA (0.01-10 μ M; 6 h) upregulates the expression levels of ECM-related genes COL2A1, ACAN, proteoglycan 4 (PRG4), and SRY-box 9 (SOX9) in human OA chondrocytes[1]. BNTA (0.01-10 μ M; 6 h) increases Col2a1, Acan, Prg4, and Sox9 mRNA levels, with maximum effects around 0.1 μ M in IL1 β -induced

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rat OA chondrocytes[1]. BNTA (0.01-1 μ M; 2 or 3 w) enhances anabolism and inhibited inflammatory response in osteoarthritis cartilage explants[1]. Cell Viability Assay[1] Cell Line: Human OA chondrocytes

BNTA (0.015-1.5 mg/kg; intra-articular injection; twice a week for 4 and 8 weeks) could attenuate OA progression developed after anterior cruciate ligament transection (ACLT) in rats[1]. Animal Model: Male SD rats weighing 80 g are induced by ACLT[1]

[1]. Shi Y, et, al. A small molecule promotes cartilage extracellular matrix generation and inhibits osteoarthritis development. Nat Commun. 2019 Apr 23; 10(1): 1914.

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