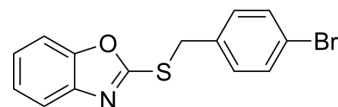


BMP signaling agonist sb4

| | | | |
|---------------------------|---------------------------------------|-------|---------|
| Cat. No.: | HY-124697 | | |
| CAS No.: | 100874-08-6 | | |
| Molecular Formula: | C ₁₄ H ₁₀ BrNOS | | |
| Molecular Weight: | 320.2 | | |
| Target: | TGF-β Receptor | | |
| Pathway: | TGF-beta/Smad | | |
| Storage: | Powder | -20°C | 3 years |
| | | 4°C | 2 years |
| | In solvent | -80°C | 2 years |
| | | -20°C | 1 year |



SOLVENT & SOLUBILITY

| | | | | | |
|---|---|--------------------------|--------------|------------|------------|
| In Vitro | DMSO : 100 mg/mL (312.30 mM; Need ultrasonic) | | | | |
| | | Solvent Concentration | Mass 1 mg | 5 mg | 10 mg |
| | Preparing Stock Solutions | 1 mM | 3.1230 mL | 15.6152 mL | 31.2305 mL |
| | | 5 mM | 0.6246 mL | 3.1230 mL | 6.2461 mL |
| 10 mM | | 0.3123 mL | 1.5615 mL | 3.1230 mL | |
| Please refer to the solubility information to select the appropriate solvent. | | | | | |
| In Vivo | <ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (7.81 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (7.81 mM); Suspended solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (7.81 mM); Clear solution | | | | |

BIOLOGICAL ACTIVITY

| | |
|-------------------------------------|--|
| Description | BMP signaling agonist sb4 is a potent benzoxazole bone morphogenetic protein 4 (BMP4) signaling agonist with a EC ₅₀ value of 74 nM, activates BMP signaling by stabilizing intracellular p-SMAD-1/5/9. BMP signaling agonist sb4 activates BMP4 target genes (inhibitors of DNA binding, Id1 and Id3) canonical BMP signaling ^[1] . |
| IC₅₀ & Target | IC50: BMP4 signal ^[1] |
| In Vitro | BMP signaling agonist sb4 (0.05 μM-1 μM; 24 hours) induces? phosphorylated SMAD-1/5/9 in a dose-dependent manner in? |

PRECs cells under serum-starved conditions^[1].

7BMP signaling agonist sb4 (1 μ M; 0-60 mins) enhances the efficacy of signaling at each concentration of rhBMP4 tested. This effect is most pronounced at low concentrations of rhBMP4, whereby sb4 increases BRE-luc expression 2-fold at 0.4 ng/ml of rhBMP4^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis^[1]

| | |
|------------------|---|
| Cell Line: | Primary mouse kidney epithelial cells (PRECs) |
| Concentration: | 0.05 μ M-1 μ M |
| Incubation Time: | 24 hours |
| Result: | Increased p-SMAD-1/5/9 abundance in PRECs. |

Western Blot Analysis^[1]

| | |
|------------------|--|
| Cell Line: | BRE-Luc cells |
| Concentration: | 1 μ M |
| Incubation Time: | 0min, 5 mins, 15 mins, 30 mins, 45 mins, 60 mins |
| Result: | Acted to stabilize p-SMAD-1/5/9 to enhance the transcriptional response. |

CUSTOMER VALIDATION

- Nat Immunol. 2022 Dec 21.
- Sci Total Environ. 2022 Aug 13;850:158040.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Bradford STJ, et al. High-throughput screens for agonists of bone morphogenetic protein (BMP) signaling identify potent benzoxazole compounds. J Biol Chem. 2019 Mar 1;294(9):3125-3136.

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

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