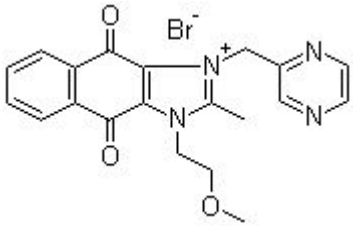
# Product Introduction

## YM155 (Sepantronium Bromide)

YM155 is a potent **survivin** suppressant by inhibiting Survivin promoter activity with **IC50** of 0.54 nM; does not significantly inhibit SV40 promoter activity, but is observed to slightly inhibit the interaction of Survivin with XIAP. Phase 1/2.

### Technical Data:

| | | |
|---|---|---|
| **Molecular Weight (MW):** | 443.29 |  |
| **Formula:** | $C_{20}H_{19}BrN_4O_3$ | |
| **Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:** | DMSO 55 mg/mL | |
| | Water 89 mg/mL | |
| | Ethanol 6 mg/mL | |
| **Purity:** | >98% | |
| **Storage:** | 3 years -20℃Powder | |
| | 6 months-80℃in DMSO | |
| **CAS No.:** | 781661-94-7 | |

### Biological Activity

YM155 is not sensitive to survivn gene promoter-driven luciferase reporter activity even at 30 μM. YM155 significantly inhibits endogenous survivin expression in PC-3 and PPC-1 human HRPC cells with deficient p53 through transcriptional inhibition of the survivin gene promoter. On the contrary YM155 shows no sufficient effect on protein expression of c-IAP2, XIAP, Bcl-2, Bcl-xL, Bad, α-actin, and β-tubulin at 100 nM.

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YM155 indicates great apoptosis in human cancer cell lines including PC-3 and PPC-1 with a concomitant increase in caspase-3 activity. YM155 potently inhibits human cancer cell lines (mutated or truncated p53) including PC-3, PPC-1, DU145, TSU-Pr1, 22Rv1, SK-MEL-5 and A375 with IC50 from 2.3 to 11 nM, respectively. [1] YM155 increases the sensitivity of NSCLC cells to γ-radiation. The combination of YM155 and γ-radiation increases both the number of apoptotic cells and the activity of caspase-3. YM155 delays the repair of radiation-induced double-strand breaks in nuclear DNA. [2]

YM155 completely inhibits the tumor growth of PC-3 s.c. xenografted prostate tumors at doses of 3 and 10 mg/kg, without body weight loss and blood cell count decrease. Pharmacokinetic analysis shows that YM155 is highly distributed to tumor tissue. Moreover, YM155 shows 80% TGI at a dose of 5 mg/kg in PC-3 orthotopic xenografts. [1] The combination therapy with YM155 and γ-radiation shows great antitumor activity against H460 or Calu6 xenografts in nude mice. [2]

## References

[1] Nakahara T, et al. Cancer Res, 2007, 67(17), 8014-8021.
[2] Iwasa T, et al. Clin Cancer Res, 2008, 14(20), 6496-6504.

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