

PRODUCT INFORMATION



YM-1 (trifluoroacetate salt)

Item No. 41174

Formal Name: 2-((3-ethyl-5-(3-methylbenzo[d]thiazol-2(3H)-ylidene)-4-oxothiazolidin-2-ylidene)methyl)-1-methylpyridin-1-ium, monotrifluoroacetate salt

MF: $C_{20}H_{20}N_3OS_2 \cdot CF_3COO^-$

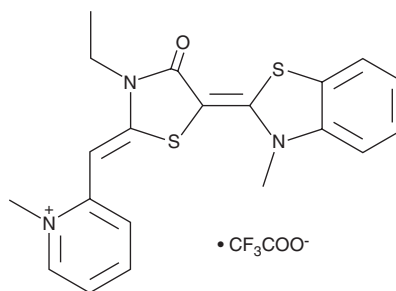
FW: 495.5

Purity: $\geq 98\%$

Supplied as: A solid

Storage: $-20^\circ C$

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

YM-1 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the YM-1 (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. YM-1 (trifluoroacetate salt) is slightly soluble (0.1-1 mg/ml) in ethanol.

Description

YM-1 is an allosteric modulator of heat shock protein 70 (Hsp70).¹ It binds to the Hsp70 N-terminal nucleotide-binding domain (NBD) and inhibits ATP/ADP turnover, thereby promoting substrate binding to the C-terminal substrate-binding domain (SBD). YM-1 (3 and 10 μM) reduces the viability of MCF-7 breast cancer cells. It induces degradation of the Hsp70 substrate protein bromodomain-containing protein 4 (BRD4), an effect that can be reversed by the proteasome inhibitor MG132 in MCF-7 cells. YM-1 (3 μM) lowers mutant huntingtin (mHTT^{Q74}) levels and decreases the proportion of mHTT^{Q74} aggregates found in the nucleus over the cytoplasm in PC12 cells.²

References

1. Mishima, Y., Tomoshige, S., Sato, S., et al. Allosteric Hsp70 modulator YM-1 induces degradation of BRD4. *Chem. Pharm. Bull. (Tokyo)* **72**(2), 161-165 (2024).
2. Pinho, B., Almeida, L.M., Duchen, M.R., et al. Allosteric activation of Hsp70 reduces mutant huntingtin levels, the clustering of N-terminal fragments, and their nuclear accumulation. *Life Sci.* **285**, 120009 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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