

# PRODUCT INFORMATION

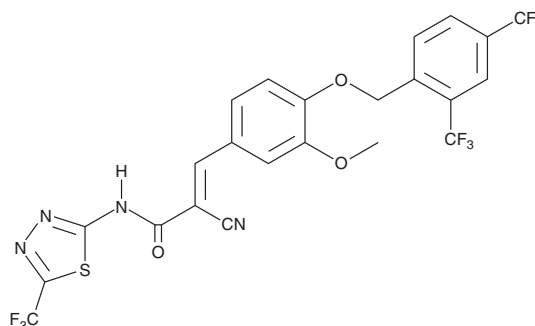


## XCT790

Item No. 16035

**CAS Registry No.:** 725247-18-7  
**Formal Name:** 3-[4-[[2,4-bis(trifluoromethyl)phenyl]methoxy]-3-methoxyphenyl]-2-cyano-N-[5-(trifluoromethyl)-1,3,4-thiadiazol-2-yl]-2-propenamide

**MF:** C<sub>23</sub>H<sub>13</sub>F<sub>9</sub>N<sub>4</sub>O<sub>3</sub>S  
**FW:** 596.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 253, 370 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

XCT790 is supplied as a crystalline solid. A stock solution may be made by dissolving the XCT790 in the solvent of choice, which should be purged with an inert gas. XCT790 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of XCT790 in these solvents is approximately 3 and 12 mg/ml, respectively.

XCT790 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, XCT790 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. XCT790 has a solubility of approximately 0.03 mg/ml in a 1:30 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

XCT790 is an inverse agonist of estrogen-related receptor  $\alpha$  (ERR $\alpha$ ; IC<sub>50</sub> = ~300-500 nM).<sup>1,2</sup> It demonstrates 90-100% inhibition of ERR $\alpha$  constitutive activity and has no significant activity at related nuclear receptors at 10  $\mu$ M.<sup>2</sup> XCT790 associates with the ligand-binding domain of ERR $\alpha$  and blocks ERR $\alpha$ /PGC-1 $\alpha$ -dependent signaling, suppressing the expression of monoamine oxidases A and B.<sup>2</sup> XCT790 induces proteasomal degradation of ERR $\alpha$  and potentiates the degradation of the estrogen receptor ER $\alpha$  by fulvestrant (Item No. 10011269).<sup>3</sup>

### References

1. Busch, B.B., Stevens, W.C., Jr., Martin, R., et al. Identification of a selective inverse agonist for the orphan nuclear receptor estrogen-related receptor  $\alpha$  *J. Med. Chem.* **47**(23), 5593-5596 (2004).
2. Willy, P.J., Murray, I.R., Qian, J., et al. Regulation of PPAR $\gamma$  coactivator 1 $\alpha$  (PGC-1 $\alpha$ ) signaling by an estrogen-related receptor  $\alpha$  (ERR $\alpha$ ) ligand. *Proc. Natl. Acad. Sci. USA* **101**(24), 8912-8917 (2004).
3. Lanvin, O., Bianco, S., Kersual, N., et al. Potentiation of ICI182,780 (Fulvestrant)-induced estrogen receptor- $\alpha$  degradation by the estrogen receptor-related receptor- $\alpha$  inverse agonist XCT790. *J. Biol. Chem.* **282**(39), 28328-28334 (2007).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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