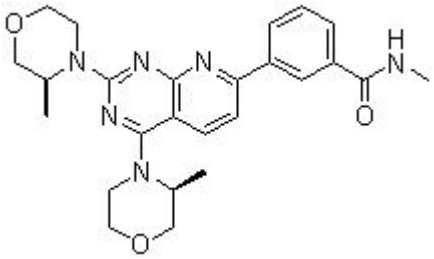
# Product Introduction

## AZD2014

AZD2014 is a novel **mTOR** inhibitor with **IC50** of 2.8 nM; highly selective against multiple PI3K isoforms (α/β/γ/δ). Phase 2.

### Technical Data:

| | | |
|---|---|---|
| **Molecular Weight (MW):** | 462.54 |  |
| **Formula:** | $C_{25}H_{30}N_6O_3$ | |
| **Solubility (25°C) * <1 mg/ml means slightly soluble or insoluble:** | DMSO 38 mg/mL | |
| | Water <1 mg/mL | |
| | Ethanol <1 mg/mL | |
| **Purity:** | >98% | |
| **Storage:** | 3 years -20℃Powder | |
| | 6 months-80℃in DMSO | |
| **CAS No.:** | 1009298-59-2 | |

### Biological Activity

AZD2014 is a close analogue of AZD8055 and a selective inhibitor of mTOR kinase. AZD2014 has greater inhibitory activity against mTORC1 compared to rapamycin: AZD2014 decreases p4EBP1 Thr37/46, inhibits the translation initiation complex and decreases overall protein synthesis while rapamycin has no effect. AZD2014 also inhibits the mTORC2 biomarkers pAKTSer473 and pNDRG1Thr346. AZD2014 has broad antiproliferative activity across multiple tumour cell lines. In particular, AZD2014 induces growth inhibition and cell death in breast cancer cell lines, including ER+ cell lines with acquired resistance to

hormone therapy. [1]

AZD2014 induces tumour growth inhibition against several xenograft models including a human primary explant model of ER+ breast cancer refractory to tamoxifen. The antitumour activity is associated with modulation of both mTORC1 and mTORC2 substrates. [1]

## References

[1] Sylvie M, et al, AACR Annual Meeting, 2012, Abst 917.

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