Product Name: NMS-P715

Revision Date: 6/30/2016

# Product Data Sheet

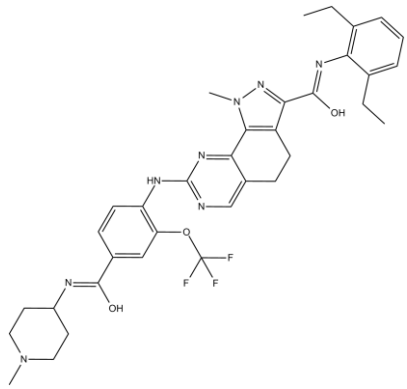
## Chemical Properties

**Product Name:** NMS-P715

**Cas No.:** 1202055-34-2

**M.Wt:** 676.73

**Formula:** C35H39F3N8O3



**Chemical Name:** (Z)-N-(2,6-diethylphenyl)-8-((4-((Z)-hydroxy((1-methylpiperidin-4-yl)imino)methyl)-2-(trifluoromethoxy)phenyl)amino)-1-methyl-4,5-dihydro-1H-pyrazolo[4,3-h]quinazoline-3-carbimidic acid

**Canonical SMILES:** CCC1=C(/N=C(O)/C(C2=C3C4=NC(NC5=C(OC(F)(F)F)C=C(/C(O)=N/C(CC6)CCN6C)C=C5)=NC=C4CC2)=NN3C)C(CC)=CC=C1

**Solubility:** Soluble in DMSO

**Storage:** Store at -20°C

**General tips:** For obtaining a higher solubility , please warm the tube at 37° C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20° C for several months.

**Shopping Condition:** Evaluation sample solution : ship with blue ice
All other available size: ship with RT , or blue ice upon request

## Biological Activity

**Targets :** Cell Cycle/Checkpoint

**Pathways:** Mps1

**Description:**

NMS-P715 is a potent and selective inhibitor of MPS1 kinase with IC50 value of 8 nM [1]. Human monopolar spindle 1 (MPS1) kinase is a serine/threonine kinase that plays an important role in spindle assembly checkpoint (SAC) signaling by influencing the stability of the

kinetochore-microtubule interaction and controlling chromosome alignment [1].
NMS-P715 is an orally available, selective and ATP-competitive MPS1 kinase inhibitor. In nocodazole-arrested U2OS cells, NMS-P715 promoted massive SAC override with EC50 value of 65 nM. In U2OS cells overexpressing YFP-α-tubulin, NMS-P715 induced mitotic acceleration and reduced mitotic cells. In nocodazole-arrested HeLa cells with MG132, NMS-P715 leads to complete delocalization of MAD1, MAD2, BUB1, BUB3 and Borealin and also reduced MPS1. In A2780 ovarian cancer cells, NMS-P715 reduced G1 phase, caused a flattening in G2/M phase of the cell cycle and subsequently induced apoptosis [1]. In human and murine pancreatic ductal adenocarcinoma (PDAC) cells, NMS-P715 inhibited cell growth [2]. In glioblastoma (GBM) cells, NMS-P715 increased the radiosensitivity of GBM cells by induction of post-radiation mitotic catastrophe and reduced repair of DNA double strand breaks (DSBs) [3].
In nude mice bearing human A2780 ovary carcinoma xenograft model, NMS-P715 (90 mg/kg for 7 days) inhibited tumor growth by 53%. In the A375 melanoma xenograft model, NMS-P715 (100 mg/kg for 10 days) inhibited tumor growth by 43% [1].

***Reference**:*

*[1]. Colombo R, Caldarelli M, Mennecozzi M, et al. Targeting the mitotic checkpoint for cancer therapy with NMS-P715, an inhibitor of MPS1 kinase. Cancer Res, 2010, 70(24): 10255-10264.*
*[2]. Slee RB, Grimes BR, Bansal R, et al. Selective inhibition of pancreatic ductal adenocarcinoma cell growth by the mitotic MPS1 kinase inhibitor NMS-P715. Mol Cancer Ther, 2014, 13(2): 307-315.*
*[3]. Maachani UB, Kramp T, Hanson R, et al. Targeting MPS1 Enhances Radiosensitization of Human Glioblastoma by Modulating DNA Repair Proteins. Mol Cancer Res, 2015, 13(5): 852-862.*

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

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