

Anticancer Activity of the Aurora A Kinase Inhibitor MK-5108 in Non-Small Cell Lung Cancer (NSCLC) *In Vitro* as Monotherapy and in Combination with Chemotherapies

Danielle C. Chinn¹, William S. Holland¹, Philip C. Mack^{1*}

¹University of California, Davis Cancer Center

4501 X Street, Suite 3016, Sacramento, CA, 95817, USA

*Corresponding author:

Philip C. Mack, Ph.D.

Division of Hematology/Oncology

UC Davis Cancer Center

4501 X Street

Suite 3016

Sacramento, CA 95817

Phone: (916) 734-8022

Fax: (916) 734-2361

Email: pcmack@ucdavis.edu

Online Resource 1 NSCLC cell line panel characteristics. This data was obtained from the Wellcome Trust Sanger Institute Cancer Genome Project web site: <http://www.sanger.ac.uk/genetics/CGP>

Cell line	Histology	Mutations
A427	Adenocarcinoma	KRAS, STK11 (LKB1), CDKN2a, SMARCA4 (BRG1), CTNNB1 (β -catenin), p53 (wt)
A549	Adenocarcinoma	KRAS, STK11 (LKB1), CDKN2a, SMARCA4 (BRG1), p53 (wt)
Calu-1	Squamous	KRAS, p53 (wt)
H358	Bronchioalveolar carcinoma	KRAS, p53 (wt/null)
H460	Large cell lung carcinoma	KRAS, STK11 (LKB1), PI3K, CDKN2a, p53 (wt)
H727	Lung carcinoid-endocrine tumor	KRAS, p53 (mt)
H1355	Lung adenocarcinoma	KRAS, p53 (mt), STK11 (LKB1)
H1650	Adenocarcinoma, bronchioalveolar carcinoma	EGFR, CDKN2a, p53 (mt)
H1666	Adenocarcinoma, bronchioalveolar carcinoma	STK11 (LKB1), BRAF, CDKN2a, p53 (wt)
H1975	Adenocarcinoma	PI3K, EGFR, CDKN2a, p53 (mt)
HCC827	Adenocarcinoma	EGFR, p53 (mt)

Online Resource 2 Median-effect analysis of MK-5108 + cisplatin. Cells were exposed concurrently to treatments of MK-5108 + cisplatin at four dose levels. The combination indexes (CI) of effective doses (ED) for 50% and 75% growth inhibition are displayed for the cell line panel

CI>1.1 Antagonistic; CI=0.9-1.1 Additive; **CI<0.9 Synergistic**

Cell Line	CI at ED₅₀	CI at ED₇₅
H1975	0.840	0.706
HCC827	0.907	0.637
Calu-1	0.909	0.958
A549	0.915	0.943
H727	0.931	1.461
H1650	0.990	2.943
A427	1.0610	0.800
H358	1.122	1.0615
H1355	1.367	1.3583
H460	1.409	1.7553
H1666	1.538	1.0466

Online Resource 3. Median-effect analysis of MK-5108 + docetaxel. Cells were exposed concurrently to treatments of MK-5108 and docetaxel at four dose levels. The combination indexes (CI) of effective doses (ED) for 50% and 75% growth inhibition are displayed for the cell line panel. Values for H1650 and H727 could not be determined (N/D)

CI>1.1 Antagonistic; CI=0.9-1.1 Additive; **CI<0.9 Synergistic**

Cell Line	CI at ED₅₀	CI at ED₇₅
H1975	0.274	1.378
H460	0.348	1.328
H1355	0.392	2.574
Calu-1	0.580	1.120
A427	0.649	1.754
H1666	0.704	1.378
HCC827	0.822	0.877
A549	1.127	0.629
H358	1.280	37.349
H1650	N/D	N/D
H727	N/D	N/D