

Central Lancashire Online Knowledge (CLoK)

Title	Anti-cancer effects and mechanism of actions of aspirin analogues in the treatment of glioma cancer
Туре	Article
URL	https://clok.uclan.ac.uk/id/eprint/5926/
DOI	https://doi.org/10.1093/neuonc/nos198
Date	2012
Citation	Petinou, V, Nicholl, ID, Singh, J, Lea, RW and Welsby, PJ (2012) Anti-cancer effects and mechanism of actions of aspirin analogues in the treatment of glioma cancer. Neuro-Oncology, 14 (2). ISSN 1523-5866
Creators	Petinou, V, Nicholl, ID, Singh, J, Lea, RW and Welsby, PJ

It is advisable to refer to the publisher's version if you intend to cite from the work. https://doi.org/10.1093/neuonc/nos198

For information about Research at UCLan please go to http://www.uclan.ac.uk/research/

All outputs in CLoK are protected by Intellectual Property Rights law, including Copyright law. Copyright, IPR and Moral Rights for the works on this site are retained by the individual authors and/or other copyright owners. Terms and conditions for use of this material are defined in the http://clok.uclan.ac.uk/policies/

British Neuro-oncology Society: Abstract submission 2012

No.	O / OP / P (To be completed by BNOS)
Submission date	
First Name	Viviana
Last Name	Petinou
Organisation	Brain Tumour North West, School of Pharmacy and Biomedical Sciences,
	UCLan
Email Address	vpetinou@uclan.ac.uk
Title of abstract	Anti-cancer effects and mechanism of actions of aspirin analogues in the
	treatment of glioma cancer.
Abstract authors	V Petinou, ID Nicholl, J Singh, RW Lea, PJ Welsby
Abstract	INTRODUCTION
	In the past 25 years only modest advancements in glioma treatment have
Maximum:	been made, with patient prognosis and median survival time following
250 WORDS	diagnosis only increasing from 3 to 7 months. A substantial body of clinical and preclinical evidence has suggested a role for aspirin in the treatment of
	cancer with multiple mechanisms of action proposed including COX 2
1750 CHARS	inhibition, down regulation of EGFR expression, and NF-κB signaling
(with spaces)	affecting Bcl-2 expression. However, with serious side effects such as stroke
	and gastrointestinal bleeding, aspirin analogues with improved potency and
No references	side effect profiles are being developed.
	METHOD
	Effects on cell viability following 24 hr incubation of four aspirin derivatives
	(PN508, 517, 526 and 529) were compared to cisplatin, aspirin and di-aspirin
	in four glioma cell lines (U87 MG, SVG P12, GOS – 3, and 1321N1), using
	the PrestoBlue assay, establishing IC ₅₀ and examining the time course of
	drug effects.
	RESULTS
	All compounds were found to decrease cell viability in a concentration and
	time dependant manner. Significantly, the analogue PN517 (IC ₅₀ 2mM)
	showed approximately a twofold increase in potency when compared to
	aspirin (3.7mM) and cisplatin (4.3mM) in U87 cells, with similar increased
	potency in SVG P12 cells. Other analogues demonstrated similar potency to
	aspirin and cisplatin.
	CONCLUCION
	CONCLUSION
	These results support the further development and characterization of novel
	NSAID derivatives for the treatment of glioma.