

NOVEL OXALIPLATIN PRODRUG

A set of novel platinum (IV) oxaliplatin derivatives that are tumour-targeted through albumin binding have been synthesized and tested by collaborating groups at the University of Vienna, Faculty of Chemistry and the Medical University of Vienna, Institute for Cancer Research.

REFERENCE:
2015/21

APPLICATION:
Successor to oxaliplatin

KEYWORDS:
■ oxaliplatin
■ prodrug
■ cancer
■ tumour-targeting

DEVELOPMENT STATUS:
Extensive in vitro and in vivo (xenograft) proof of concept data

IPR:
A priority patent application was filed in Dec 2015

BACKGROUND

Oxaliplatin is an off-patent drug used very successfully in combined therapy for the treatment of colorectal cancer, but which is associated with severe side-effects such as ototoxicity, neurotoxicity, vomiting and diarrhoea.

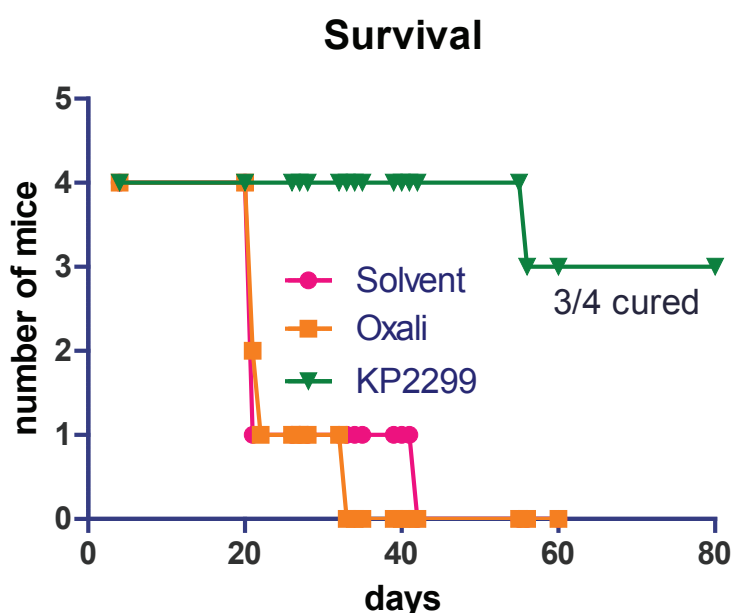
TECHNOLOGY

A prodrug approach was adopted to minimize exposure of body tissues to free oxaliplatin. A variety of oxaliplatin prodrug derivatives were designed to release free oxaliplatin in a site-directed manner within tumour tissue. They were tested for efficacy in cellular and xenograft models. One class of derivatives exhibited remarkable effects on survival of tumorigenic mice relative to free oxaliplatin.

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ADVANTAGES

- Tumour-selective targeting through albumin binding
- Reduced side effects relative to oxaliplatin
- Greatly enhanced survival of mice relative to treatment with oxaliplatin