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Comparison between intravenous and peritoneal route on liver targeted uptake and expression of plasmid delivered by Glyco-poly-L-lysine

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Abstract

AIM: To compare the effects of intravenous route and peritoneal route on liver targeted uptake and expression of plasmid delivered by glyco-poly-L-lysine (G-PLL).

METHODS: The plasmid pTM/MMP-1 which could be expressed in eukaryotic cells was bound to the galactose-terminal G-PLL, and then was transferred into Wistar rats by intravenous and intraperitoneal injection respectively. Afterwards the expression and distribution of the plasmid were observed at different time points by *in situ* hybridization and immunohistochemistry.

RESULTS: The plasmid could be expressed obviously in 24 h after being transferred *in vivo* by both intravenous and intraperitoneal route. One week later the expression began to decrease, and still could be ovserved three weeks later. Although both the intravenous and intraperitoneal route could deliver the plasmid to liver targetly, the effect of the former was better as compared with that of the latter.

CONCLUSION: Intravenous route was better for liver targeted uptake and expression of G-PLL-bound plasmid than peritoneal route.

Key words: Intravenous route; Intraperitoneal route; Glyco-poly-L-lysine; Liver targeted uptake; Plasmid

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