

GROWTH FACTORS IN DEVELOPMENTAL AND RENAL RECOVERY

Growth Factor	Expression Following Renal Ischemia	Effect of Exogenous Administration	Branching/Tubulogenic Activity
HGF	Increased [97]	Enhanced recovery [103]	Facilatory [109,110]
EGF	Unclear [98,99]	Enhanced recovery [104,105]	Facilatory [111]
HB-EGF	Increased [100]	Undetermined	Facilatory [111]
TGF- α	Unclear	Enhanced recovery [106]	Facilatory [111]
IGF	Increased [101]	Enhanced recovery [107,108]	Facilatory [112,113]
KGF	Increased [102]	Undetermined	Undetermined
bFGF	Undetermined	Undetermined	Facilatory [112]
GDNF	Undetermined	Undetermined	Facilatory [114]
TGF- β	Increased [†] [98]	Undetermined	Inhibitory for branching [115]
PDGF	Increased [†] [98]	Undetermined	No effect [112]

*Increase in endogenous biologically active EGF probably from preformed sources; increase in EGF-receptor mRNA

[†]Chemoattractants for macrophages and monocytes (important source of growth promoting factors)

FIGURE 16-24

Growth factors in development and renal recovery. This table describes the roles of different growth factors in renal injury or in branching tubulogenesis. A large variety of growth factors have been tested for their ability either to mediate ureteric branching

tubulogenesis or to affect recovery of kidney tubules after ischemic or other injury. Interestingly, growth factors that facilitate branching tubulogenesis in vitro also enhance the recovery of injured renal tubules.

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