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Regenerative medicine brought to life.

J.P. Morgan Healthcare Conference

January 2011

Forward Looking Statements

Certain statements in this presentation may constitute forward looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Although Tengion believes that these statements are based upon reasonable assumptions within the bounds of its knowledge of its business and operations, there are a number of factors that may cause actual results to differ from these statements.

For instance, there can be no assurance that: (i) the Company will be able to obtain the capital it needs to develop its product candidates or continue as a going concern; (ii) the Company will be able to successfully enroll patients in its clinical trials, including its initial clinical trial for the Neo-Urinary Conduit; (iii) patients enrolled in the Company's clinical trials will not experience adverse events related to the Company's product candidates, which could delay clinical trials or cause the Company to terminate the development of a product candidate; (iv) the results of the clinical trial for the Neo-Urinary Conduit will support further development of that product candidate; (v) data from the Company's ongoing preclinical studies will continue to be supportive of advancing its preclinical product candidates; and (vi) the Company will be able to progress its product candidates that are undergoing preclinical testing, including the Neo-Kidney Augment, into clinical trials.

For additional factors which could cause actual results to differ from expectations, reference is made to the reports filed by the Company with the Securities and Exchange Commission under the Securities Exchange Act of 1934, as amended. The forward looking statements in this presentation are made only as of the date hereof and the Company disclaims any intention or responsibility for updating predictions or expectations in this presentation.

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Company Highlights

Tengion products harness the body's natural ability to regenerate

- *Unique and productive research platform*

Neo-Urinary Conduit targets patients with bladder cancer

- *Enrollment progressing with expanded inclusion criteria*
- *Investigators gaining important insights, considering surgical technique modifications*
- *Anticipate interim assessments completed on five patients by end of 2011*
- *Company has option to potentially enroll up to 10 patients at up to 6 sites*
- *Significant unmet need provides $1B market opportunity*

Neo-Kidney Augment delays progression of kidney failure

- *Four animal models of chronic kidney failure published and/or presented*
  - *Canine kidney failure model responding up to 5 months post treatment*
- *FDA interaction anticipated in 2H11 to clarify path to clinical trials*

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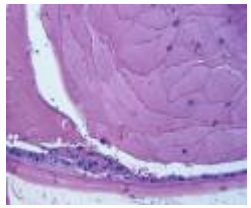
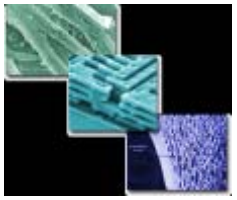
Catalyzing Regeneration in the Body

Humans have limited capacity to regenerate

Our platform uniquely catalyzes human tissue regeneration



Cells



Biomaterials

INTEGRATED PLATFORM

Industrialization

Surgical Implantation

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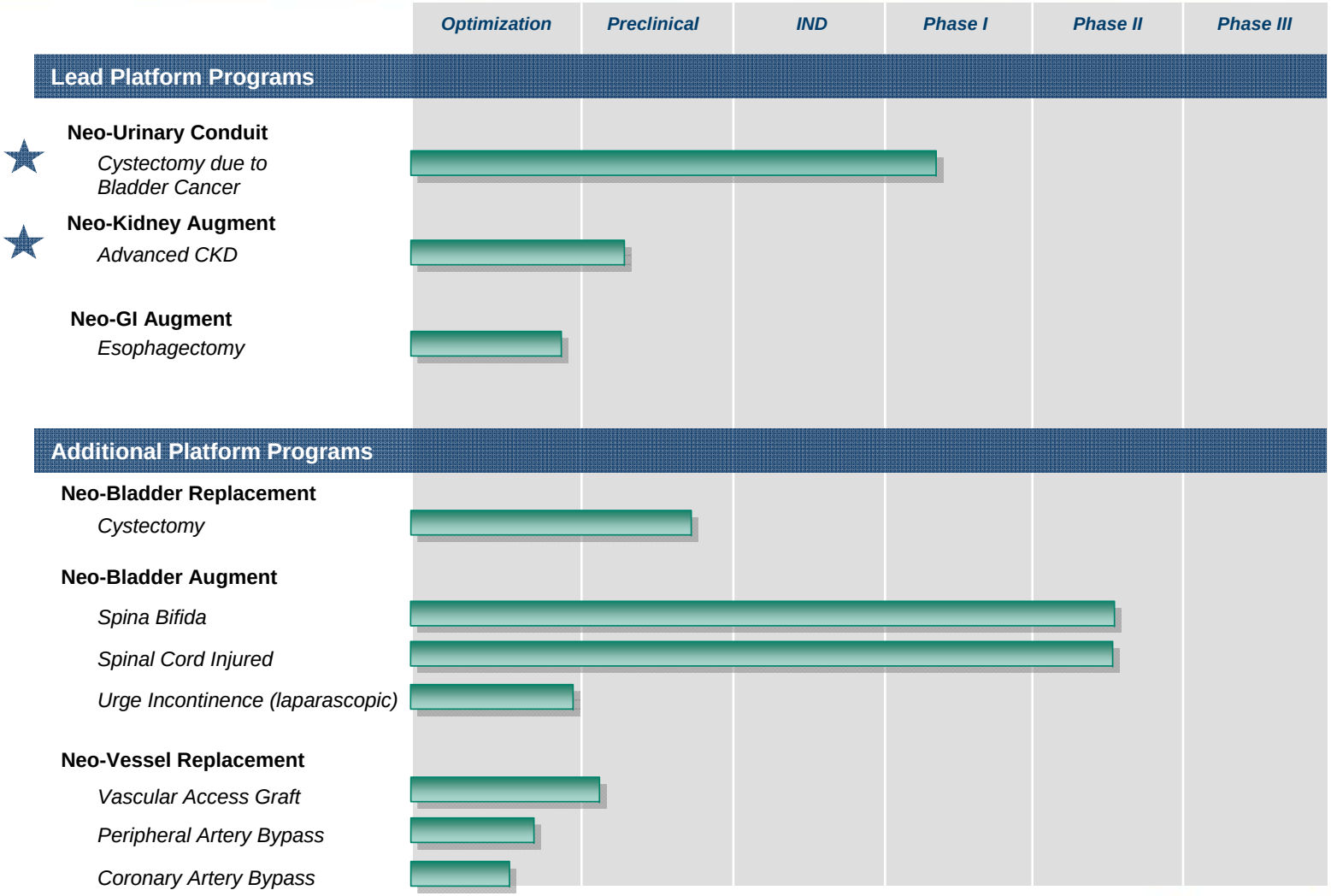
Tengion Product Pipeline



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Urologic Franchise

Urologic Products to Enhance or Replace Bladder

	Neo-Urinary Conduit	Neo-Bladder Augment	Neo-Bladder Replacement
	Phase I	**Phase II**	**Pre-IND**
Primary Patient Populations (US and EU)	Bladder cancer (20K/yr)	Spina Bifida / SCI* (1K/yr)	Bladder cancer (1.6K/yr)
Current Standard of Care	**Bowel** used to create a tube to transport urine from ureters to abdominal wall into ostomy bag	**Bowel** used to increase bladder capacity and decrease pressure	**Bowel** used to create a bladder to carry and store urine inside the patient for excretion via urethra
Benefit of Tengion Products	***Eliminate the use of bowel and reduce the associated complications and side effects***		

***SCI = Spinal Cord Injury**

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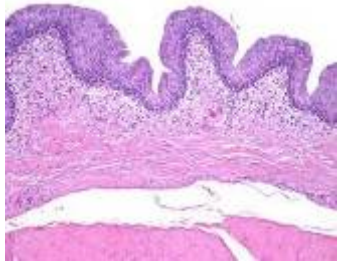
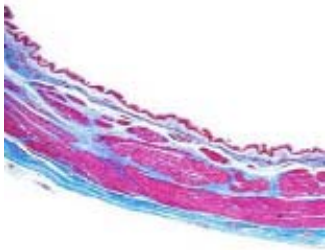
Neo-Urinary Conduit – Large Animal Data (GLP n=66)

Regeneration with flow of urine in a swine model

Native-like regeneration at <u>three months</u> with no immune rejection

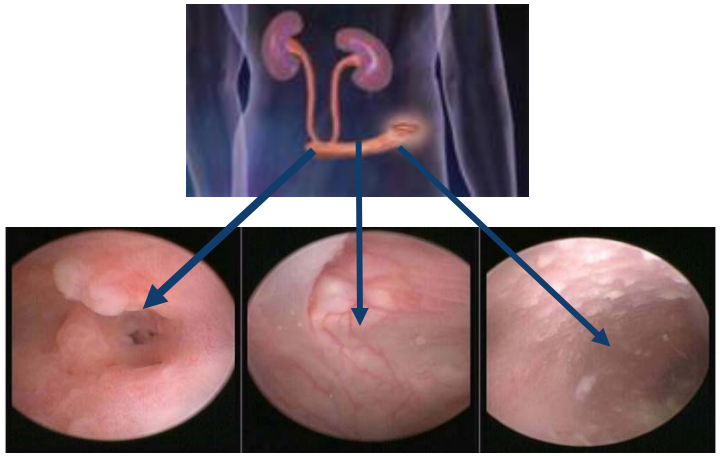


Normal lining



Normal thickness and muscle structure

Regeneration of normal lining from ureters to skin with no urine absorption and no mucus secretion



Junction with ureter | Conduit | Junction with skin

The product candidate catalyzed regeneration of a conduit made of bladder tissue, allowing for unobstructed urine flow

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Source: Tengion IND #14218; Presented at International Society for Stem Cell Research, 2009

Neo-Urinary Conduit: Update

Open label study to define surgical procedure and safety

Up to 10 patients with primary bladder cancer requiring cystectomy

- *University of Chicago and Johns Hopkins Hospital actively screening*
- *Considering expansion to additional sites, possibly in 2H11*

Recently expanded enrollment criteria

- *Better reflecting typical patient population, still 'balancing' co-morbidities*

Sequential enrollment of initial patients

- *Allows for modifications to surgical procedure as needed*
- *Same two surgeons at initial implants to define procedure*

Primary efficacy assessment

- *Conduit integrity and patency at 1 year*
- *Interim assessments quarterly*

Anticipate interim assessments completed on 5 pts by end of 2011

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Neo-Kidney Augment

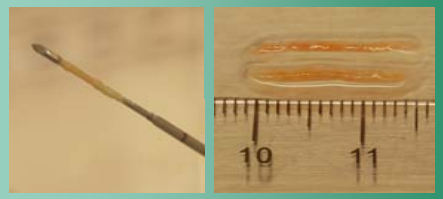
Neo-Kidney Augment Overview

Intended to delay the need for dialysis or transplantation

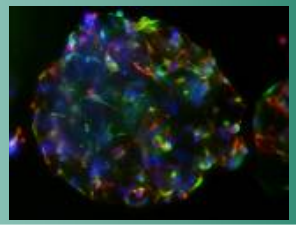
100,000 new dialysis patients each year in the US

- *350,000 currently on dialysis*
- *20% annual mortality*
- *$60,000 1st year cost per patient*
- *$27 billion in direct US costs annually for end stage kidney disease*

Bioactive Renal Cells from Kidney Biopsy

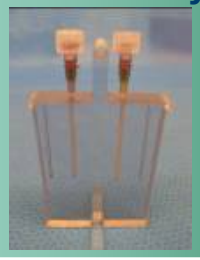


Bioactive Renal Cells on Biomaterial



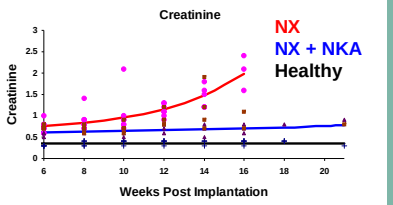
Bioreactor System for NKA

Injectable Delivery System



Product Implantation

Functional Regeneration Delays Progression



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Neo-Kidney Augment
R&D Program Overview

Initial data published in September, 2010

- *Aggressive preclinical model of chronic kidney disease*
- *Preserved functional kidney mass, slowed progression, improved survival at 6 months*

Diabetic kidney failure

- *Aggressive diabetic, obese, hypertensive model of kidney failure*
- *Slowed kidney failure progression and improved survival at 1 year*

Human kidney cells in nude rat kidney failure

- *Reversed kidney failure at 3 months*

Large animal kidney failure

- *Observations consistent with small animal results*
- *Effects seen as early as 7 weeks, with persistent effects reported at 5 months*

Product Development

- *Bioprocess and delivery systems being advanced*

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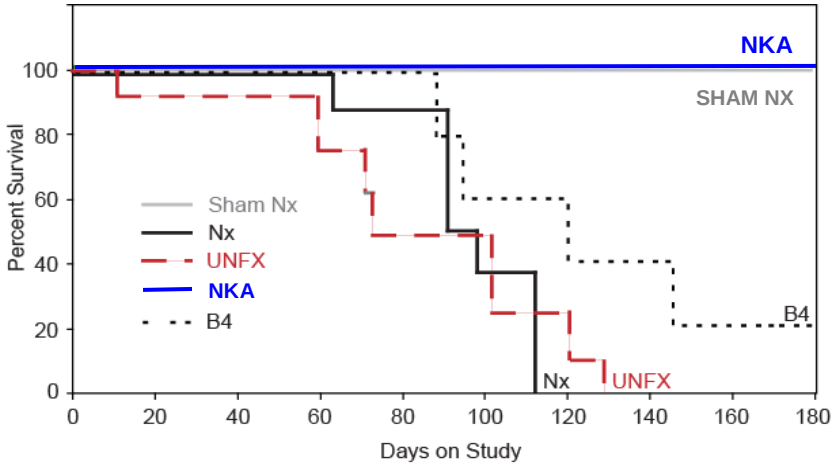
Renal Cell Function Validated *in vivo*

Rodent 5/6 nephrectomy model of chronic renal failure

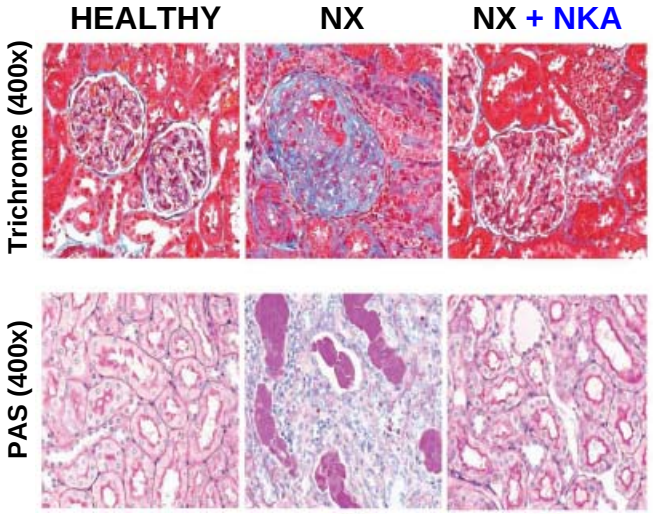
Renal cells delivered after chronic disease state established

- *sCREAT sustained at >200%*
- *BUN sustained at >150%*



Selected regenerative renal cells (NKA) outperform unfractionated mixture (UNFX) and improve multiple physiologic parameters

- *Enhanced survival*
  - *(100% (NKA) vs. 0% (Nx and UNFX)*
- *Stabilized filtration (serum creatinine)*
- *Improved protein retention*
- *Reduced phosphatemia*



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Kelley et al, Am J Physiol Renal Physiol 2010 (Published online 9/6/2010)

Diabetic Obese Rat Model of Progressive Nephropathy

Kidney disease secondary to diabetes and hypertension

ZSF1 rodent model of diabetic nephropathy

Aggressive Metabolic Syndrome

- *Morbid obesity (leptin-receptor deficient)*
- *~50% mortality at ~1yr*
- *Multiple co-morbid conditions*
  - *Hyperglycemia*
  - *Vasculopathy*
  - *Hypertension*
- *Progressive disease throughout the nephron*
  - *Renal hypertrophy*
  - *Progressive glomerular sclerosis*
  - *Progressive decline in GFR*
  - *Tubular / interstitial fibrosis*
  - *Severe proteinuria*

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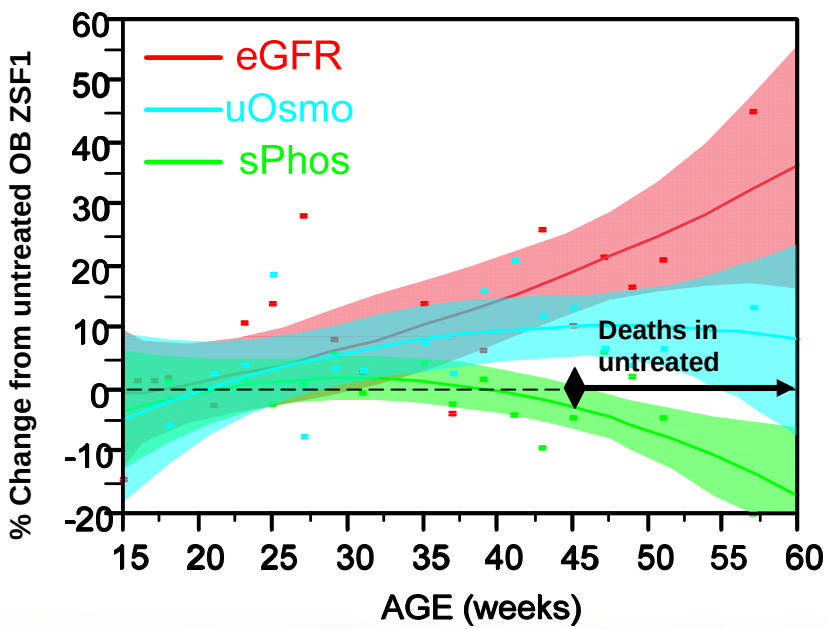
Tofovic et al., Ren. Fail. 22:387 (2000)

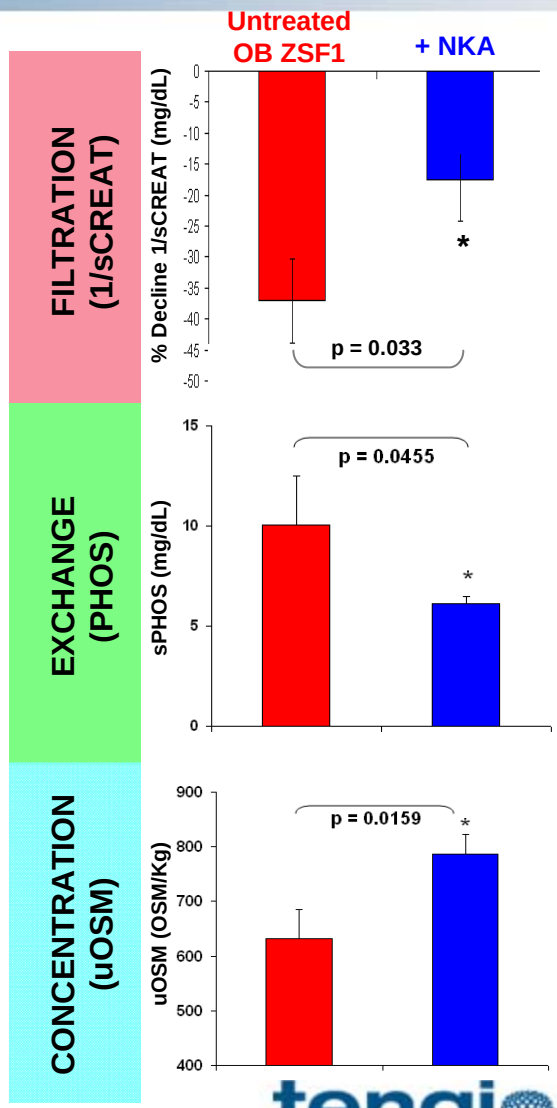
Renal Cells Improved Function throughout the Nephron

Glomeruli, tubules, and collecting ducts

At > 1 year of age:

- *35% improvement in eGFR*
  (Filtration)
- *15% reduction in phosphatemia*
  (Tubular Function)
- *10% improvement in uOSM*
  (Concentration)





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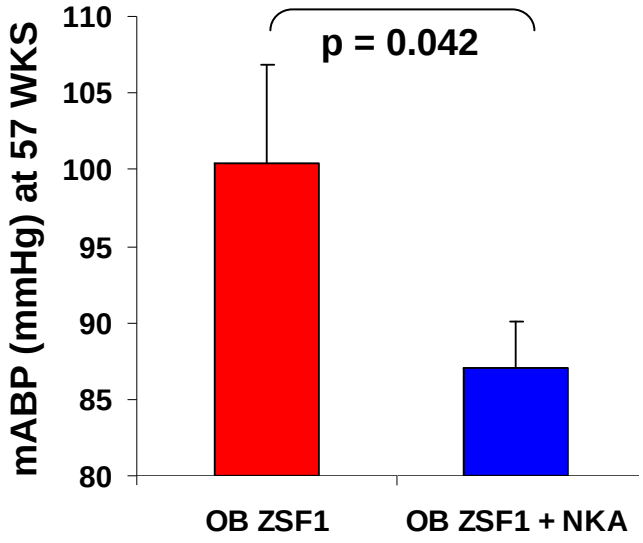
Polynomial fit w/ 95% C.I.

Renal Cells Reduced Hypertension & Improved Survival

Effects beyond 1 year of age

- *Renal Cells reduced mean arterial blood pressure (MABP) significantly*



- *Renal Cells support survival beyond 50% mortality time point for OB ZSF1*

Treatment Group	*63-week Survival*
Untreated OB ZSF1	20% (1/5)
OB ZSF1 + NKA	100% (5/5)

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Nude Rat Model of Chronic Kidney Disease

Enables functional assessment of bioactive human cells

Rodent model of CKD after acute injury

Chronic renal insufficiency

- *Renal failure due to Ischemia-Reperfusion + Gentamicin (I-R/G)*
- *Model characterized by stable insufficiency with partial recovery*
- *Ischemia-Reperfusion + Gentamicin injury in nude rats enables functional testing of human cellular components*

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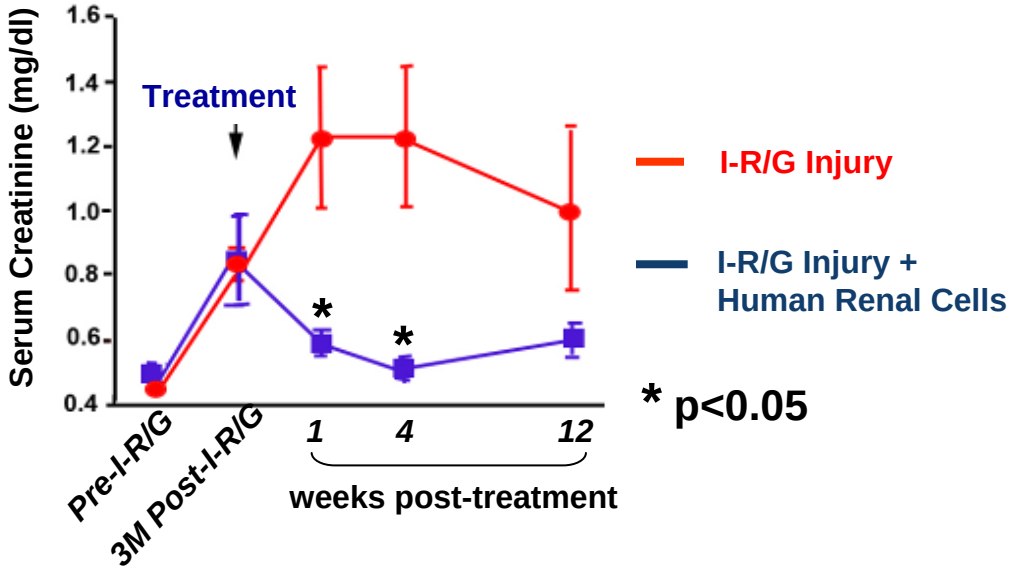
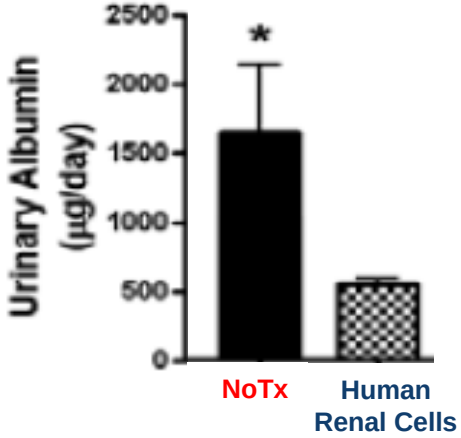
Human Kidney Tissue Regeneration in Nude Rats

Delayed progression of CKD and stabilized renal function

Human-derived cells prevent renal failure in CKD Nude Rats for 3 mo.



Human-derived cells improve CKD Nude Rat nephron function



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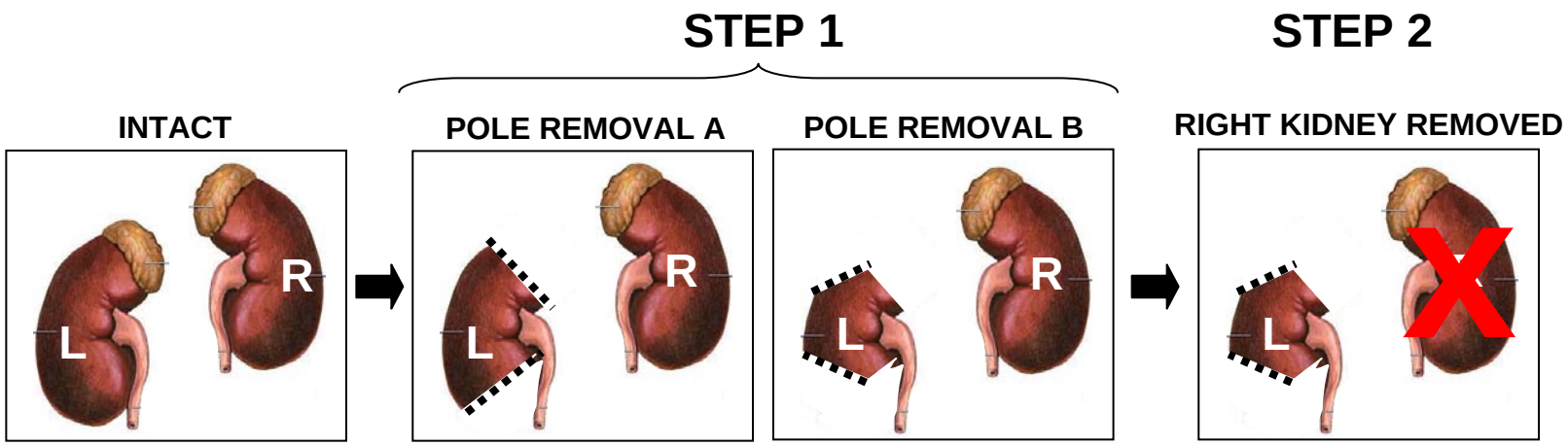
Modified 5/6 Nephrectomy Canine Model of CKD

Renal disease secondary to reduced kidney mass

Canine 5/6 Nx-induced model of renal failure

Chronic renal insufficiency

- *>50% reduction in GFR*
- *Mild hypertension*
- *Uremia*
- *Mild anemia*
- *Progressive proteinuria*
- *Gradual weight loss*



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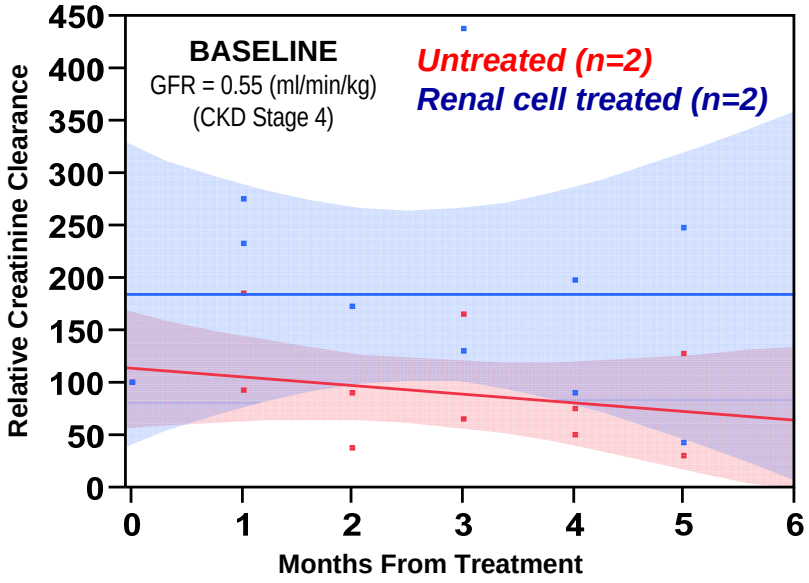
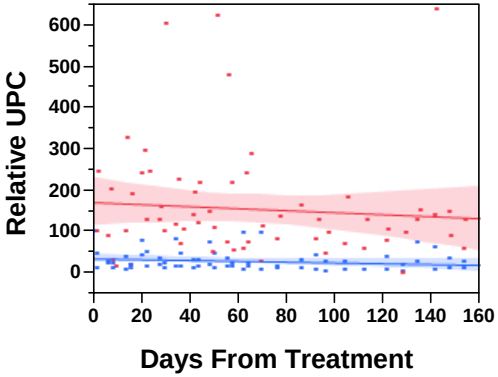
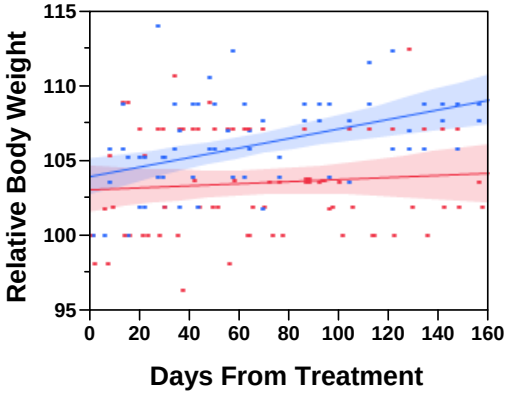
Pilot Canine Study Indicates Renal Cells Stabilize GFR
In 5/6-nephrectomized model at five (5) months (ongoing)

Pilot study shows trends of efficacy:

- *Increased Creatinine Clearance (CCL)*
- *Reduced Urine Protein:Creatinine Ratio*
- *Increased Body Weight*







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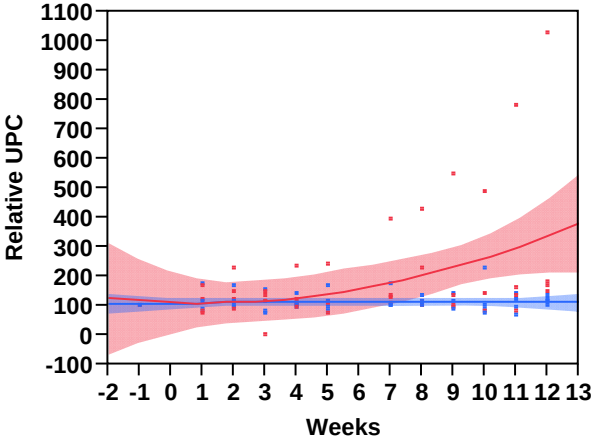
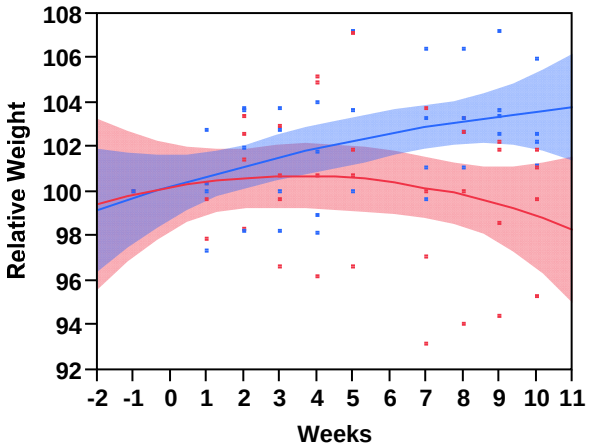
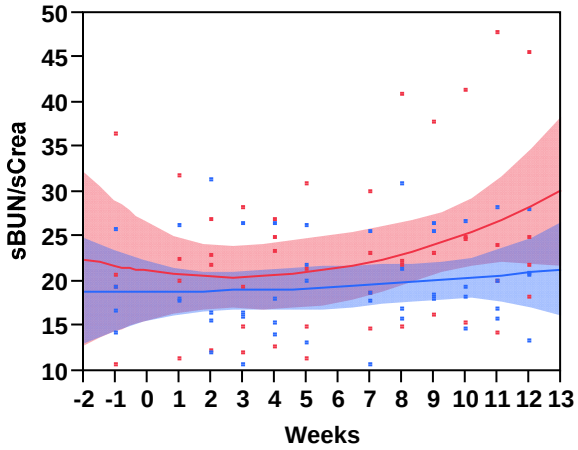
Large Animal Study Confirms Renal Cell Function
Significant improvement 13 weeks post-treatment

Untreated (n=4)
Renal cell treated (n=4)







Protein balance stabilizes with treatment

(UPC, p = 0.0281)*

Treatment promotes weight gain vs. weight loss

(BW, p < 0.0001)*

Renal filtration stabilizes with treatment

(BUN/sCre, p < 0.0001)*

****Multivariable linear regression using 'Treatment', 'Age', and 'Animal' to predict BUN/sCre, UPC & Body Weight.***
P values = Effects Test for Treatment.

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Mechanism of Action Studies
NKA modifying widely accepted mechanisms

- ***Renal cells persist for at least 6 months at low levels***
- ***Treatment with selected renal cells results in attenuation of signaling pathways involved in fibrosis and kidney disease***
  - *Reduced*
    - *TGFβ1 expression in the kidney*
    - *PAI-1 accumulation in the glomeruli*
    - *Extracellular matrix deposition*
  - *Activation of NFκB is attenuated*
- ***Data suggests contributions by direct and indirect mechanisms***

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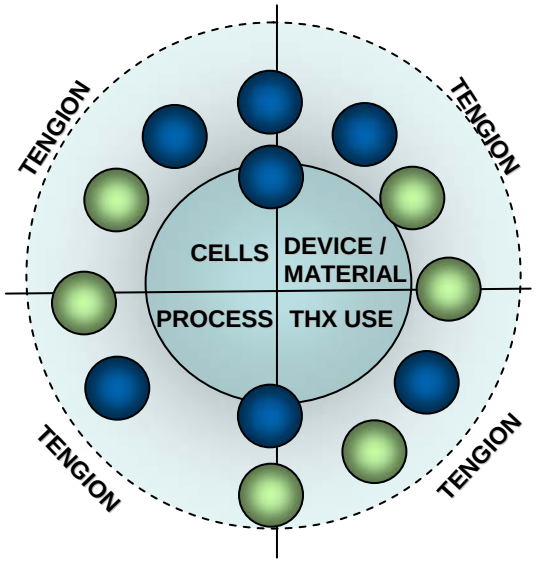
Corporate

IP and Barriers to Entry

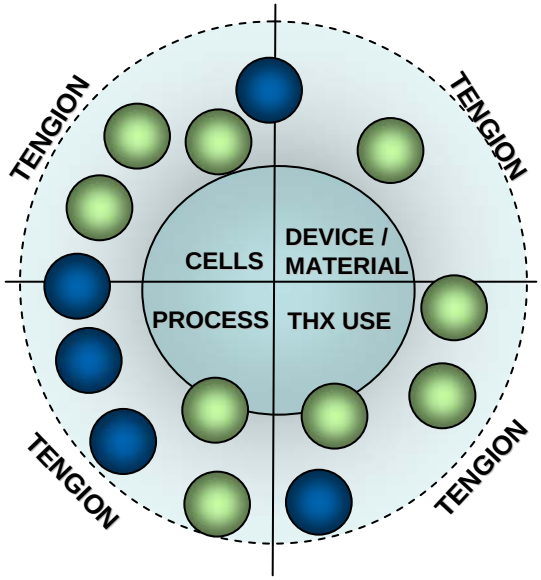
Issued patent protection to 2021, plus recent applications pending

- *37 US and 130 international patents and patent applications*
- *Core patents cover composition, design and methods of manufacture**

Urologic Franchise



Neo-Kidney Augment



Plus know-how, trade secrets and integrated capabilities associated with the discovery, development and manufacturing of our product candidates

= Issued Patents ***= Patent Applications***

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*** Individual patents may cover multiple elements***

Financial Overview

	September 30, 2010	June 30, 2010
Cash and Investments	$19.0 M	$27.4 M
Long-Term Debt	$11.8 M	$15.3 M
Net Loss - YTD	$19.7 M	$12.9 M
Outstanding Shares	12.4 M	12.4 M

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Company Highlights

Tengion products harness the body's natural ability to regenerate

- *Unique and productive research platform*

Neo-Urinary Conduit targets patients with bladder cancer

- *Enrollment progressing with expanded inclusion criteria*
- *Investigators gaining important insights, considering surgical technique modifications*
- *Anticipate interim assessments completed on five patients by end of 2011*
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