



**UTIRose™**

A natural answer to **Urinary Tract  
Infections** issues



## The best efficiency of specific and selected actives from Hibiscus (ie. 'Roselle') for urinary comfort and prevention of Urinary Tract Infections

Burgundy Botanical Extracts has started different studies on the extracts of Hibiscus presenting anti-bacterial properties in particular. The various selected actives have been the subject of regulatory and scientific studies, for the field of health as urinary comfort, with principal target calming the pains and the inflammation, treating the infection and to limit the relapses.

**This leads to UTIRose™: UTI for Urinary Tract Infections and Rose for Roselle – the other name of Hibiscus.**

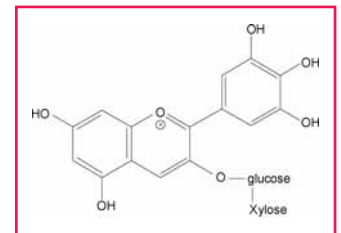
UTIRose™ is a patented product: FR 07 54906 - FR2008/050769 and FR 54905 - FR2008/080797 for both Process and Application.

Aqueous preparations of *Hibiscus sabdariffa* calyces are acidic, antibacterial beverages widely used in folk medicine to acidify and deodorize the urine and to protect against urinary infections as well as kidney disorders (formation of stones). It is now established that *Hibiscus sabdariffa* contains compounds that inhibit and prevent the adhesion of *E. coli*: the calyx contains substantial quantities of polyphenols: flavonoids, sambubioanthocyanidins, proanthocyanidins and chlorogenic acids reported by several studies to possess excellent antimicrobial activity against organisms like *Escherichia coli*, *Staphylococcus aureus*, *Bacillus subtilis* and *Pseudomonas aeruginosa* with similar activity to chloramphenicol. This activity has been revealed to be due to polyphenolic nature of the flavonoids as well as other ingredients: polysaccharides and a high concentration of simple organic acids.



**Urinary infections and cystitis are very wide-spread and establish a public health concern**

They are more frequent in women in age to procreate than in men, or they arise later in life. The urinary infections represent the second motive for consultation in infectious pathology, after lung infections. The treatment of urinary infections and cystitis requires generally an antibacterial, analgesic preparation and an angio-protective to eliminate germs responsible for the infection, to fight the pain of micturition but also to protect the walls of the bladder; but these treatments have adverse effects, notably by increasing risks of germ resistance. There is considerable evidence to support the use of polyphenols and organic acids of *Hibiscus sabdariffa* for the prevention of Urinary Tract Infections.

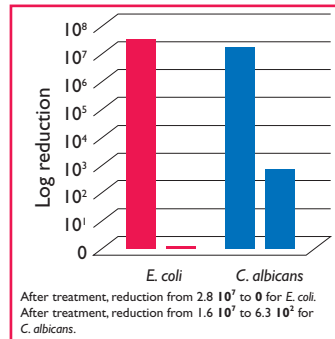


**Delphinidol-3-sambubioside I** (85% of the anthocyanins), also known as hibiscin. *Hibiscus sabdariffa* contains basically monomeric and some copigmented and polymeric anthocyanins. These molecules are responsible for the red colour given to the herbal tea.

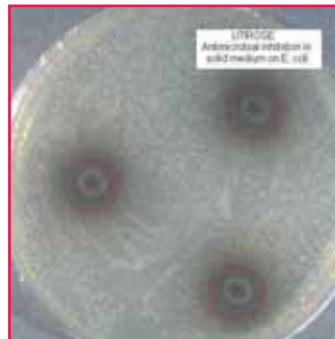
*Escherichia coli* is the causal agent in 80-95 % of the episodes of acute non complicated cystitis.  
*Candida albicans* is also known as an important causal agent.

## The innovative concept **UTIRose™** - extract from hibiscus - cut the incidence of urinary tract infections by 77 per cent says the in-vivo study conducted from January 2008 to July 2008 (double-blind versus placebo)

- **77% reduction** of the Urinary Tract Infections (in-vivo study, 68% for UTIRose™ Premium), with very significant Student value ( $p < 0,001$ )
- **Acts on both *E. Coli* and *Candida Albicans***, inhibition of the bacterial flora (and not only as anti-adherent)
- Decontamination of the medium **within one day**.
- **Remains a food extract** (food solvents)
- **Control of the presence and actions** of UTIRose™ and its metabolites in the urines (in-vivo and not only in-vitro).
- **Easy to use** in Capsules, softgels, tablets, functional drinks, sachets, ...
- **200 mg of UTIRose™ per day**, stand-alone or possible in combination with other existing actives (Cranberry, D-Mannose, Dandelion, etc...) for **a high marketing impact and the best efficiency**.



Burgundy has evaluated the antimicrobial preservation efficiency (Protocol of the USP XXV Ph.) on 2 strains which proves the significant effect on the reduction **by Log 7** of an initial microbial contamination either for both *E. coli* and *C. albicans*.



UTIRose™ gives very significant result on the antimicrobial efficiency on *E. coli* and *C. albicans* on solid medium. Comparison with other extracts shows that UTIRose™ is much better in antimicrobial activity (adaptation from Centers for Disease Control and Prevention / US Department of Health & Human Services / USA.gov).

UTIRose™ is manufactured in our plant in France, respecting the strictest ISO 22000 (Food and Hygiene Safety Management) procedures. Our products are Kosher and non-GMO certified. Burgundy uses a complete set of advanced equipment for extraction, purification, column chromatography, concentration and drying. Our quality control laboratory is fully equipped with the most advanced instruments of analysis.

### Raw material:

Hibiscus (*Hibiscus sabdariffa*)  
Calyces

### Extraction solvent:

Low Ethanol / Water

### Colour:

Red to dark red

### Taste:

Slightly acidic and astringent

### Form:

Fine or Microgranulated powder

### Actives:

Polyphenols, sambubioanthocyanidins, organic acids

### Grades:

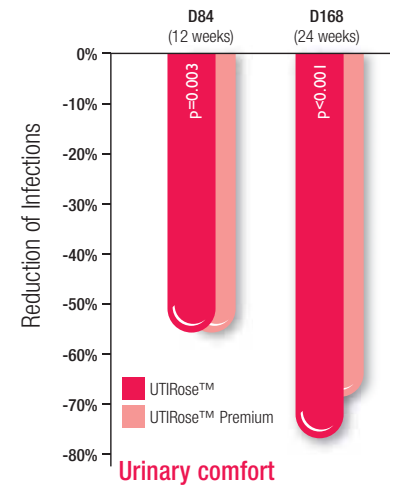
UTIRose™  
UTIRose™ Premium

Kosher, non-GMO, no-allergens, non-ionized

All grades available as organic

According to the Globally Harmonised System (GHS), UTIRose™ is classified class 5 (or unclassified with a LD50 higher than 5000 mg/kg in the Rat)

## 24 weeks in-vivo study



The double-blind vs placebo In-vivo study ended by August 2008 has highly confirmed the Urinary comfort improvement (Prevention of Urinary Tract Infections, Limitation of risks of infections with repetition). Controlled by medical visits, the study concerns 70-90 women from 18 to 55 years old, having more than 8 episodes per year. After 184 days, results confirm 77% reduction with a very significant Student value ( $p < 0.001$ ). A specific premium grade (UTIRose™ Premium) has also been checked in this study, showing a decrease by 68% ( $p < 0.001$ ) and slightly better subjective values (odor of the urines, pain during urination). In all cases, the placebo group (200mg maltodextrin) remains insignificant ( $p > 5\%$ , at 20% reduction – 84 days). Those are great results never got on a plant extract against UTI.

### Antibacterial activity

- **Inhibition of the bacterial flora (decontamination of *E. coli* and *Candida albicans*)**
- **Antimicrobial preservation efficiency**
- **Acidification of urine resulting in bacteriostatic effect**

### Antibiotic treatments / Alternative treatments

- **Germ resistance risks avoided**

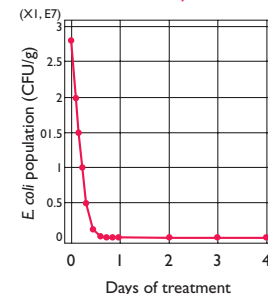
### Urinary comfort improvement

- **Prevention of urinary tract infections**
- **Limitation of risks of infections with repetition**

### Scientific dossier available upon request

### In-vivo study: double blind vs. placebo

### Antimicrobial efficiency of UTIRose™



This antimicrobial effect occurs immediately, and permits to obtain a total decontamination of the medium in 1 day after the beginning of the treatment.



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BOTANICAL EXTRACTS

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