LifeLabs®

Health Care Providers Newsletter
December 2021

New CRP Method at LifeLabs

Dr. Cheryl Tomalty, Clinical Biochemist, PhD, FCACB

As part of our ongoing efforts to provide high-quality results our customers can trust, LifeLabs is implementing a new wide-range C-Reactive Protein (CRP) assay from Roche Diagnostics at our labs in British Columbia starting November 1, 2021.

This new assay will replace the current CRP assay and has the advantage of maintaining sensitivity in the lower range suitable for cardiovascular disease assessment while improving linearity in the upper range for detection and monitoring of active inflammation. Patient results are equivalent to the current assay, but the reference interval will slightly change from <4.8 mg/L to <5.0 mg/L. The clinical reporting range is 0.6 to 350.0 mg/L. Results >350.0 will be reported as >350.0 mg/L.

According to the American Heart Association and the American College of Cardiology (JACC 2019; 74: e177), a CRP ≥ 2.0 mg/L is a risk factor for cardiovascular disease. CRP results ≥ 5.0 may be due to acute inflammation.

For further information or questions, please contact the Biochemist on-call at 1-800-431-7206.

Allergen Component Testing

Joanna Jung, Clinical Biochemist, PhD, DABCC

This December, LifeLabs will be launching new Allergen Component Tests in British Columbia. The expanded menu includes Allergen Components for cashew, walnut, soy, apple, alpha-gal, wheat, birch, weed-, tree- and grass-pollens, dust mites, dog, cat, horse, hazelnut, egg, peach, and cow's milk. We have also expanded the peanut component testing to now include the rAra h6 component, allowing us to offer a comprehensive assessment of peanut allergies.

Allergen Component Tests quantitatively measure specific IgE antibodies targeted to individual proteins (antigens). Allergen-specific IgE test results can guide health care professionals in their clinical investigation of IgE-mediated allergy in patients.

New Allergen Component Requisition and more information are available at https://lifelabs.com/healthcare-providers/requisitions/?

For additional questions or comments, please contact Dr Joanna Jung, clinical biochemist, at Joanna.Jung@lifelabs.com

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Antibiotic Profile: Nitrofurantoin

Dr. Diana Whellams, Medical Microbiologist, MD, FRCPC

Developed in the 1950s, nitrofurantoin is an old antibiotic that continues to be a good option for treatment of cystitis.

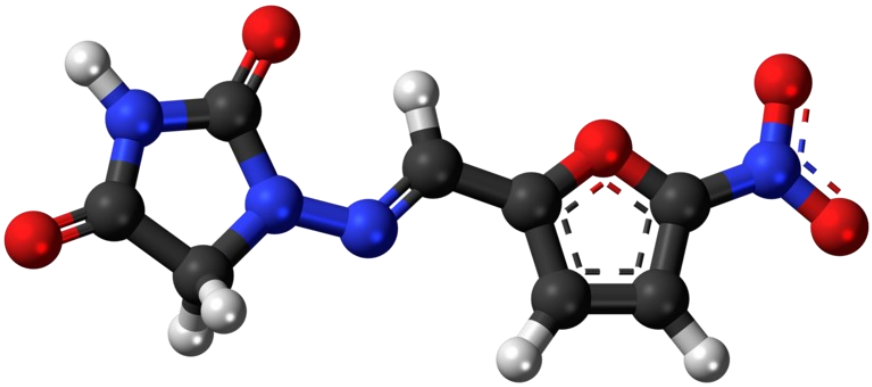
Nitrofurantoin concentrates in the urine but achieves low plasma levels, making it good for treatment of uncomplicated urinary tract infections (UTIs) but limiting systemic side-effects. However, for the same reason, it should NOT be used for treatment of systemic infections (including pyelonephritis) (1).

Nitrofurantoin covers many common UTI pathogens, including *E. coli, Enterococcus spp,* and *Staphylococcus saprophyticus*, making it a good empiric choice to treat cystitis . Acquired resistance is rare; in 2020, >95% of urinary isolates of *E. coli* and *Enterococcus faecalis* tested at LifeLabs BC were susceptible. However, some organisms are intrinsically resistant to nitrofurantoin, including *P. aeruginosa, Proteus spp, Morganella spp, Serratia marsescens*, and *Providencia spp*.. Resistance is variable in *Klebsiella spp*. (2)

Nitrofurantoin should not be used in patients with reduced creatinine clearance because of decreased efficacy – the product monograph suggests avoiding use in patients with CrCl <60 but other research has shown good treatment outcomes down to a CrCl of 30. (3,4)

Common/mild side-effects include GI upset. More serious side effects include pulmonary fibrosis and hepatotoxicity, but cases are rare and usually associated with chronic use. (1) The drug is generally safe in pregnancy but should be avoided at 38+ weeks gestation (or close to delivery) or in infants <1 month old due to an increased risk of hemolytic anemia. (3)

The recommended dosage for treatment of cystitis in adults is 100 mg PO BID x 5-7 days; taking pills with food increases absorption. (3) Patients may notice that their urine turns a darker colour on treatment. This is normal and resolves after stopping the antibiotic.



References

1. Huttner A et al. Nitrofurantoin revisited: a systematic review and meta-analysis of controlled trials. J Antimicrob Chemother 2015; 70: 2456–2464.
2. EUCAST. Intrinsic resistance and unusual phenotypes. February, 2020.
3. Pharmascience Inc. Macrobid Product Monograph. November 7, 2018. Accessed online November 2021 at Microsoft Word - Approved Product Monograph 1.docx (hres.ca)
4. Cunha BA et al. Nitrofurantoin safety and effectiveness in treating acute uncomplicated cystitis (AUC) in hospitalized adults with renal insufficiency: antibiotic stewardship implications. Eur J Clin Microbiol Infect Dis (2017) 36:1213–1216