



ComPath News



COMPATH
Your Partner in Research Facility Health Monitoring

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AUGUST 2016

> THE COMPATH TEAM

It has been an eventful year so far for the ComPath Team as we farewell two of our members and welcome two more. Huey Yeng Loo has recently taken maternity leave and has given birth (10th June) to a beautiful, healthy baby boy. Also departed (8th July) is Amy Gathercole, who will be welcoming her second child into the world. During Amy's absence, Samay Trec will be Acting Manager. Please do not hesitate to contact her by email at info@compath.com.au or phoning the lab on +61 8 8128 4617 if you have any queries.

On the other hand, we welcome back long-time member Marianne Lim, who has returned (part-time) from maternity leave and has wasted no time getting back up to speed and into the swing of things again. We also welcome our newest recruits, Charné Rossouw (BSc Hons) who joined us in early March and has already become an extremely skilful and valuable member of our team and Jessica Logan (B LabMed Hons, PhD submitted) who started mid-July and is quickly learning the ropes.

We wish Amy and Huey all the very best with motherhood and will keep you informed of their progress and highly anticipated return.

> COMPATH IS NOW ISO 9001:2015 CERTIFIED



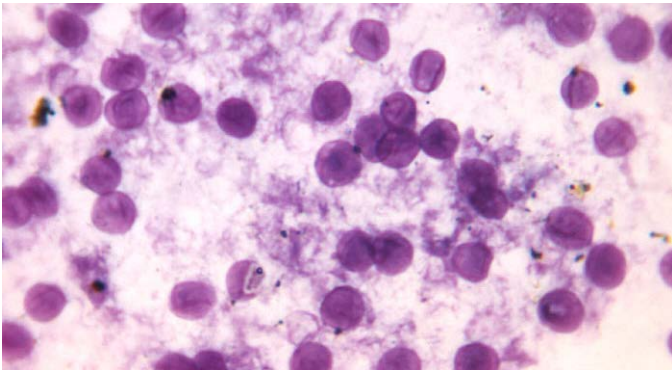
Quality
ISO 9001



The South Australian Health & Medical Research Institute (SAHMRI), including ComPath, meet the International Standard Organisation (ISO) requirements for Quality Management Systems. ComPath, under its previous managing organisation SA Pathology, held ISO 9001:2008 certification however this was unable to be transferred in our move to the newly opened SAHMRI.

While SAHMRI worked hard to get their corporate QMS designed and implemented, ComPath continued with the stringent quality systems it already had in place making it an easy road to gaining compliance with the newest version of the standard – ISO 9001:2015. This means that you, our clients, can continue in your confidence that the services provided to you are managed with a high level of quality, are efficient in operations, show effective risk management and focus on customer satisfaction.

> PATHOGEN UNDER THE MICROSCOPE



Pneumocystis carinii

Image: upload.wikimedia.org/wikipedia/commons/c/ce/Smear_of_Pneumocystis_carinii._Toluidine_blue_stain_PHIL_596_lores.jpg

Part of the *Pneumocystidaceae* family, *Pneumocystis carinii* is an opportunistic ascomycetous fungus that infects the lung alveoli in rats. Organisms in this family are host specific. There are two species that infect rats; *P. carinii* and *P. wakefieldi*, with *P. carinii* being the main species to infect laboratory rats.

The estimated prevalence of *P. carinii* in laboratory rat populations is greater than parvoviruses, and is seen in both immunocompetent and immunocompromised colonies.

In immunocompetent colonies, the pathogen causes infectious interstitial pneumonia (IIP), which is characterized by lesions observed on the lungs. In immunocompromised rats; the animals can present with laboured breathing, weight loss, coughing, hunched posture and cyanosis, which may subsequently lead to death. Immunocompetent rats show less severe symptoms. Transmission occurs from animal to animal through fomites or aerosol. In immunocompetent animals, an immune response is generated which eliminates the infection and shedding within 3-8 weeks. Shedding occurs indefinitely in immunocompromised animals. Infection by this pathogen can be diagnosed through histological techniques, EIA or PCR.

For histology, a sample of the lung is collected at necropsy, processed and stained. The stains used include H&E or Grocott (or Gomori) methenamine silver (GMS). EIA can only be used if the animals are able to generate an immune response. EIA results will be positive even after the infection has cleared as the antibodies will remain in the serum. PCR is used to diagnose a current infection and samples used include lung, lung wash and nasal aspirate. DNA is extracted and tested for the presence of *P. carinii*.

It has been reported that animals with lesions caused by *P. carinii* have not been suitable for respiratory studies and this pathogen can cause a high rate of morbidity and mortality in immunocompromised strains if the colony is not monitored carefully.

ComPath recommends regular animal health monitoring of supplier sub-populations and strict protocols for barrier colonies. Limit animal and human contact with infected animals due to the potential of transmission. If an outbreak occurs, rederivation can be used to repopulate rodent colonies. *P. carinii* infections may be treated with Trimethoprim/Sulfamethoxazole given in drinking water, but antibiotic resistance is likely to develop.

ComPath currently offers EIA, IFA, PCR and histopathological examination for the detection and confirmation of *P. carinii* infection.

Bibliography:

- Stringer, J.R. 1996. *Pneumocystis carinii*: What is it, exactly? *Clinical Microbiology Reviews*, 9(4): 489-498.
- Weisbroth, S.H. 2006. *Pneumocystis*: newer knowledge about the biology of this group of organisms in laboratory rats and mice. *Consultant in Laboratory Animal Medicine*, 35(9): 55-61.
- Henderson, K.S. et al. 2012. *Pneumocystis carinii* causes a distinctive interstitial pneumonia in immunocompetent laboratory rats that had been attributed to "rat respiratory virus". *Veterinary Pathology* 49(3): 440-452
- Kim et al. 2014. Histopathology of *Pneumocystis carinii* pneumonia in immunocompetent laboratory rats. *Experimental and Therapeutic Medicine* 8: 442-446.

> CHANGES IN PRICE LIST

We will be making slight changes to our price list effective 1st September 2016. We always strive to offer our clients the lowest prices possible, as we know the pressures research facilities face with ever reducing budgets. The only increase will be the cost of our M-AQIS/R-AQIS panel (Hantavirus testing for Quarantine Release) which will allow us to continue providing dried blood spot cards to our clients at no additional charge. We will also be replacing our current PCR cell line panel (PCR-C) with a more comprehensive panel (PCR-CELL-Q) that includes a larger list of pathogens. This panel has been designed to screen for mouse specific pathogens in cell lines, prior to their use in SPF facilities.

As always, we can tailor and create any type of panel to suit your specific needs. Just email us with what you require and we will work to achieve the best possible health monitoring solution for you. The latest pricelist will be available for download from our website www.compath.com.au and can also be accessed from CORA - cora.compath.com.au

> ANZLAA- AUCKLAND 2016

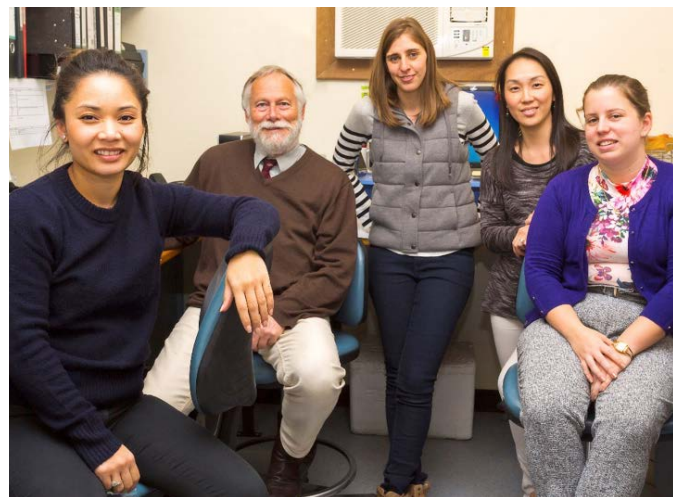
The ANZLAA conference will be held in the amazing city of Auckland this year (31st August – 2nd September). It's always a great opportunity for members of the animal science community to gather and share current thoughts, trends and views about animals in research. This year, Samay and Marianne will be representing the ComPath Team. Please stop by Booth #21, whether it's to discuss queries about laboratory animal health monitoring or just to catch-up and chat. We will be stocked with plenty of give-aways and you can go into the draw to win a FitBit! We hope to see you there.

> CORA UPDATES



ComPath is always striving to bring you the best and most convenient health monitoring service, which is why we continue to invest in improving and further developing our online submission and reporting application, CORA. We will be showcasing some new updates to the system at the upcoming ANZLAA conference, such as visual 'bug' markers on reports that have identified pathogens to be present and more changes will be rolled out in the coming months as we respond to your feedback and suggestions.

> COMPATH TEAM



ComPath Team, left – right: Samay, Tim, Charne, Marianne and Jessica

> LARRY



BY DAY: LARRY SMITH, ANIMAL FACILITY MANAGER



BY NIGHT: KHAL LARRY, FIRST OF HIS NAME, THE UNBURNT, FATHER OF GM MICE, AND BREAKER OF IVC'S

STORYBOARD: ANNY GATHERCOLE, MARIANNE LIM, SAMIY TREC & CHARNE ROSSOUW ILLUSTRATION: MARIANNE LIM

Until next time...



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