

The EM unit was established in 1965 and operates two transmission electron microscopes; one variable pressure scanning electron microscope and a confocal laser scanning microscope. All have digital image and data acquisition which provides a unique record of observations.

For further information on the services available please contact:

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Electron Microscopy Unit

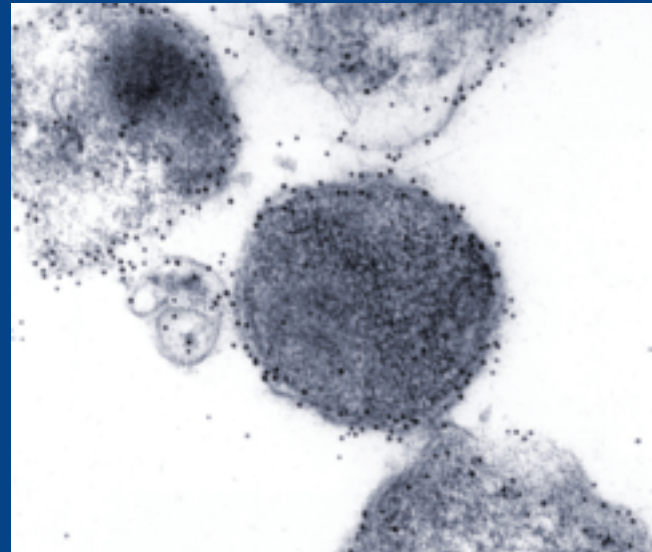
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electron microscopy



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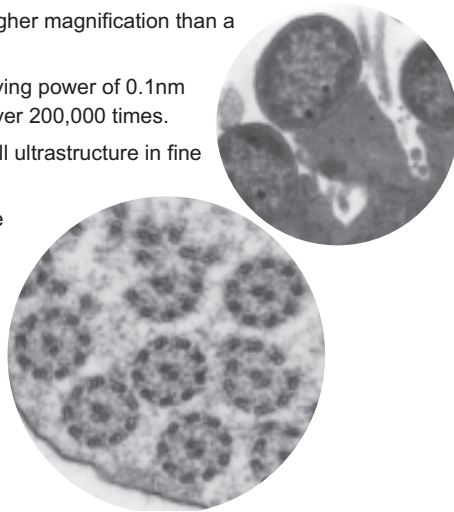
VLA is an Executive Agency of the
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Enhance your scientific research and publications using the VLA's Electron Microscopy Unit

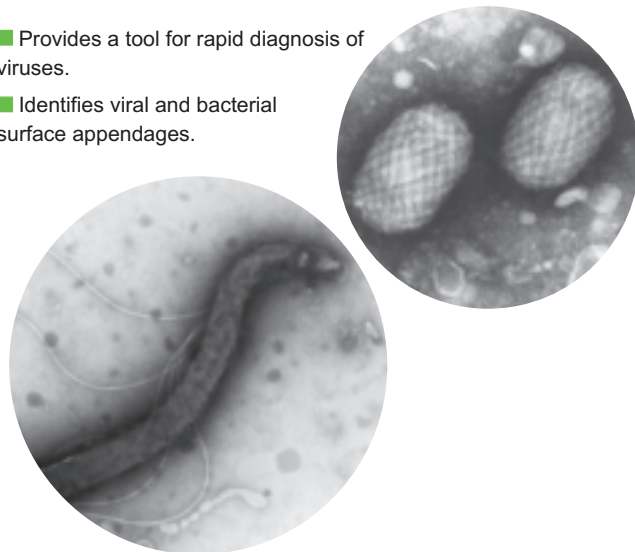
Transmission electron microscopy

- Delivers much higher magnification than a light microscope.
- Achieves a resolving power of 0.1nm at magnifications over 200,000 times.
- Demonstrates cell ultrastructure in fine detail.
- Maintains sample antigenicity in cells and tissues by low temperature embedding and immunogold labelling.



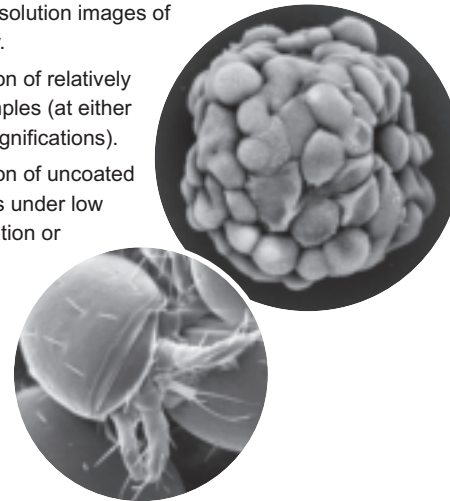
Negative contrast staining

- Provides a tool for rapid diagnosis of viruses.
- Identifies viral and bacterial surface appendages.



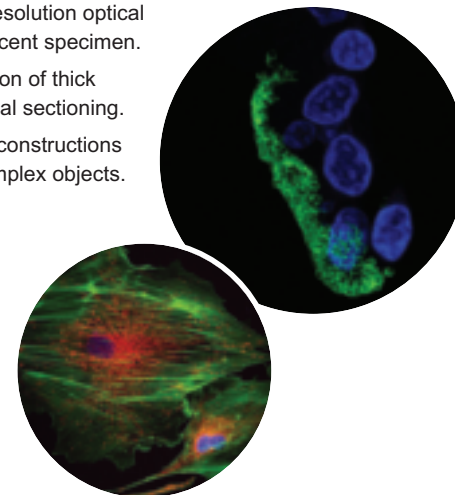
Scanning electron microscopy

- Produces high-resolution images of surface morphology.
- Allows examination of relatively large biological samples (at either low or very high magnifications).
- Allows examination of uncoated hydrated specimens under low vacuum without fixation or drying.
- Uses energy dispersive x-ray spectroscopy for microanalysis.



Confocal laser scanning microscopy

- Produces high-resolution optical images in a fluorescent specimen.
- Allows examination of thick specimens by optical sectioning.
- Produces 3-D reconstructions of topologically-complex objects.
- Is non-invasive so allows live cell observations.



The VLA Electron Microscopy Unit is a high-resolution imaging centre and one of the leading electron microscopy facilities in the United Kingdom. We provide a professional service to customers in the public and animal health fields.

Current research work includes many major diseases affecting farm livestock and wildlife including transmissible spongiform encephalopathies, bovine tuberculosis, avian influenza, *E. coli*, salmonella and campylobacter.

Backed by 40 years experience, we are uniquely placed to work on a wide variety of sample submissions with rapid turnaround. We deliver to the highest quality standards (certificated to BS EN ISO 9001:2000) for the provision of a specialist veterinary scientific service.

