The Royal College of Pathologists
Pathology: the science behind the cure

Object 5: The agar plate

What is it?
An agar plate is a thin layer of nutrient gel in a Petri dish, used to grow bacteria and fungi in the microbiology laboratory.

Discovery
Since the late nineteenth century microbiologists have used shallow dishes to grow bacteria on solid media. Gelatin was used initially to form a thin layer of nutrient gel, but this melted at body temperature. Scientist Fannie Hesse suggested using agar, having used it successfully to make fruit jellies that didn't melt on hot days. Agar is a polysaccharide derived from the cell walls of red seaweed. A variety of nutrients can be added to the agar to preferentially grow different bacteria.

Significance
Since its invention in the 1880s, the agar plate has transformed microbiology and is still in use in every lab in the country. Over 85 million agar plates are used in the UK every year. Without this discovery many organisms may not have been isolated and immunisations against infections such as diphtheria may not have been developed. Without agar plates Fleming may not have identified penicillin and later antibiotics may not have been developed.

Find out more?
To find out more about agar plates, visit the lab news website.