

Allicin - Nature's Antibiotic

From the heart of garlic

The History of Garlic

- Garlic originated in Siberia and was imported by the Egyptians to feed and protect the workers who built the pyramids
- Every culture in the World has revered garlic as a great food, spice and medicine
- In ancient India garlic was called Mahushuea and was thought to be "god like"

The History of Garlic

- Garlic bulbs were found in Tutankhamen's tomb – he was buried in 1352 BC
- In ancient times garlic was used as a tonic, a remedy for skin disease, loss of appetite, dyspepsia, anorexia, cough, rheumatic conditions, abdominal disease, boosting the immune system, and as an aphrodisiac
- The Greeks believed garlic gave great strength and an ability to “win”

What's in garlic that makes it so powerful?

- Garlic contains a wide range of vitamins and minerals and an amino acid called "alliin" and an enzyme called "alliinase"
- When harvested garlic has no smell but it contains a very potent defence mechanism that starts when garlic is cut, cooked, boiled, chopped, fried or mechanically processed in any way

Now for the smelly bit!

Let's make some Allicin
Crush some fresh garlic

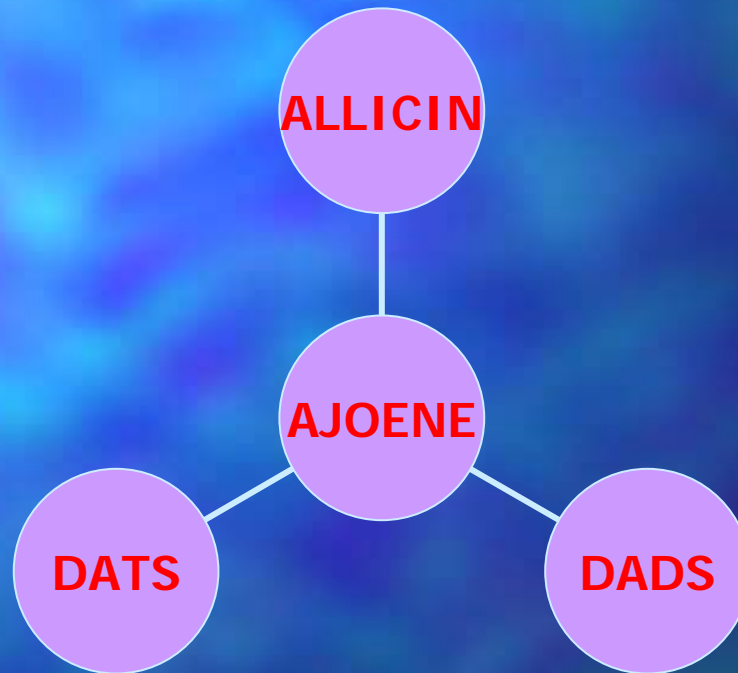
Allicin produced from fresh garlic



Components of Garlic



Allicin the "Mother" substance



THIOSULPHINATE COMPOUNDS
FORMED WHEN ALLICIN BREAKS
DOWN ARE ALSO BODY ACTIVE

Historical properties of garlic that can be attributed to allicin

- Anti-bacterial - wide spectrum of sensitive bacteria both gram positive and negative
- Anti-viral (including common cold virus)
- Anti-fungal (more effective than many drugs)
- Anti-cancer (IOWA women's study)
- Anti-cholesterol (substantial data)
- Anti-blood pressure (substantial data)
- May reduce blood sugar levels
- May help to reduce fat build up and lead to loss of weight

Types of Garlic supplement

- Garlic oil capsules – no allicin potential
- Aged garlic extract – no allicin potential
- Garlic macerates – some allicin potential?
- Garlic powder – potential depends on processing
- Garlic powder easily inactivated by stomach acid
- Pure allicin powder supplements like Allimax are now available

A revolutionary new supplement

- Until recently allicin has only been produced in small quantities for research only
- Until now allicin has only been generated in some garlic powder products
- Until now only allicin derivatives can be found in garlic oil capsules
- Until now supplement efficacy depends on enzyme conversion of alliin to allicin

A new type of supplement

- Allicin now available as a stable liquid
- Allicin now formulated into powder capsules (Allimax)
- Allicin now formulated into cream
- No need to wait for conversion as Allimax IS allicin
- Likes the acid environment of your stomach

Preventing the Common Cold

A double blind placebo controlled survey with 146 volunteers



Active supplement with the
optimum dose of allicin is found
ONLY in Allimax

Results - Number of colds

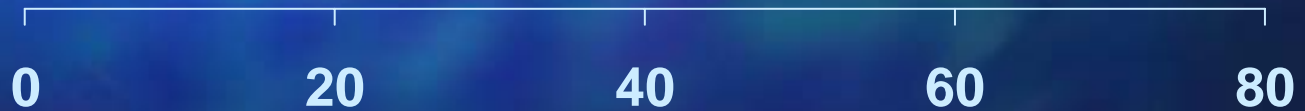
Placebo



Active



$P < 0.001$

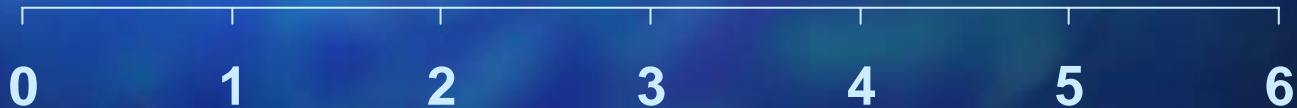


Results - Average symptom duration (days)

Placebo



Active



Repeat infections

Placebo



Active



Conclusions

- Allimax can prevent the Common Cold
- Reduction of severity of symptoms
- Re-infection less likely with Allimax
- Could represent huge savings for the USA economy
- Product is well tolerated and may offer other advantages according to volunteer reports
- Manufacturer's recommended dose was used
- Addition of Vitamin C and bioflavonoids is a logical combination

Allicin as a modern anti-bacterial

- Known as “Nature’s antibiotic”
- Broad spectrum of activity
- No resistance has ever been recorded
- Allicin prevents bacterial enzyme production
- Problem infections can be resolved with allicin
- Allicin is natural, safe and effective

Historical use of allicin (from garlic) for resistant infections

- Typhoid
- Cholera
- Smallpox
- Dysentery
- Plague
- Anthrax (agricultural)
- Tuberculosis**
- Used EXTENSIVELY until the sulphonamide antibiotics were discovered

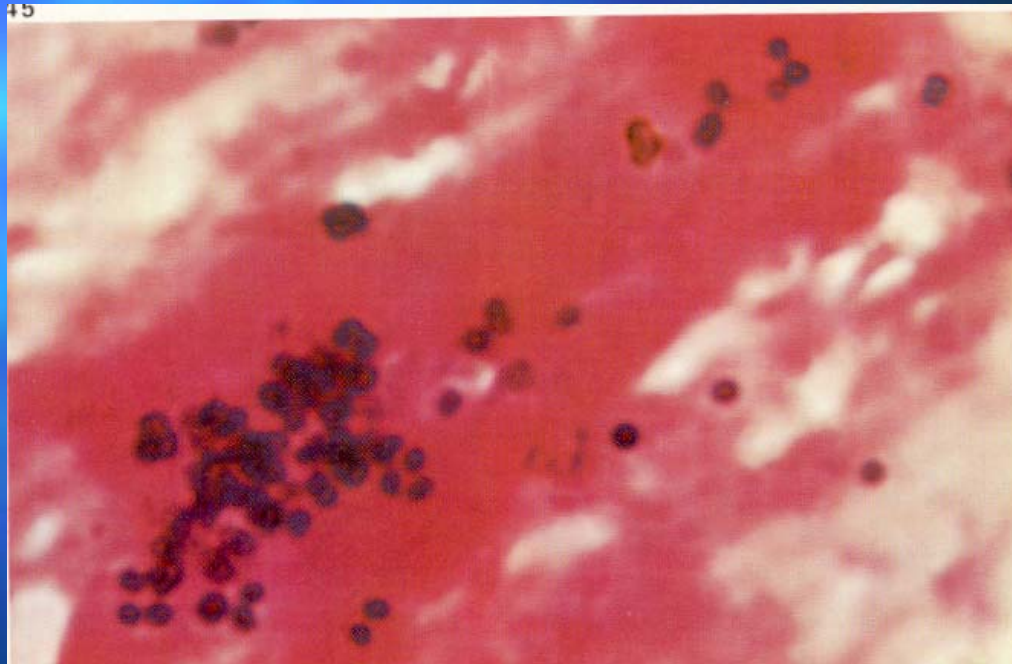
MIC (ppm allicin) for some problem bacteria

■ Streptococcus pyogenes	16 ppm
■ Staphylococcus aureus	16 ppm
■ Listeria monocytogenes	16 ppm
■ Escherichia coli 0157	32 ppm
■ Salmonella typhimurium	32 ppm
■ Clostridium perfringens	64 ppm
■ Helicobacter pylori	16 ppm

Staphylococcus aureus

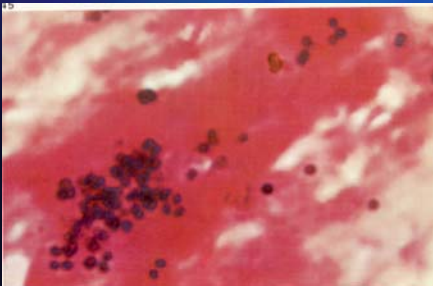
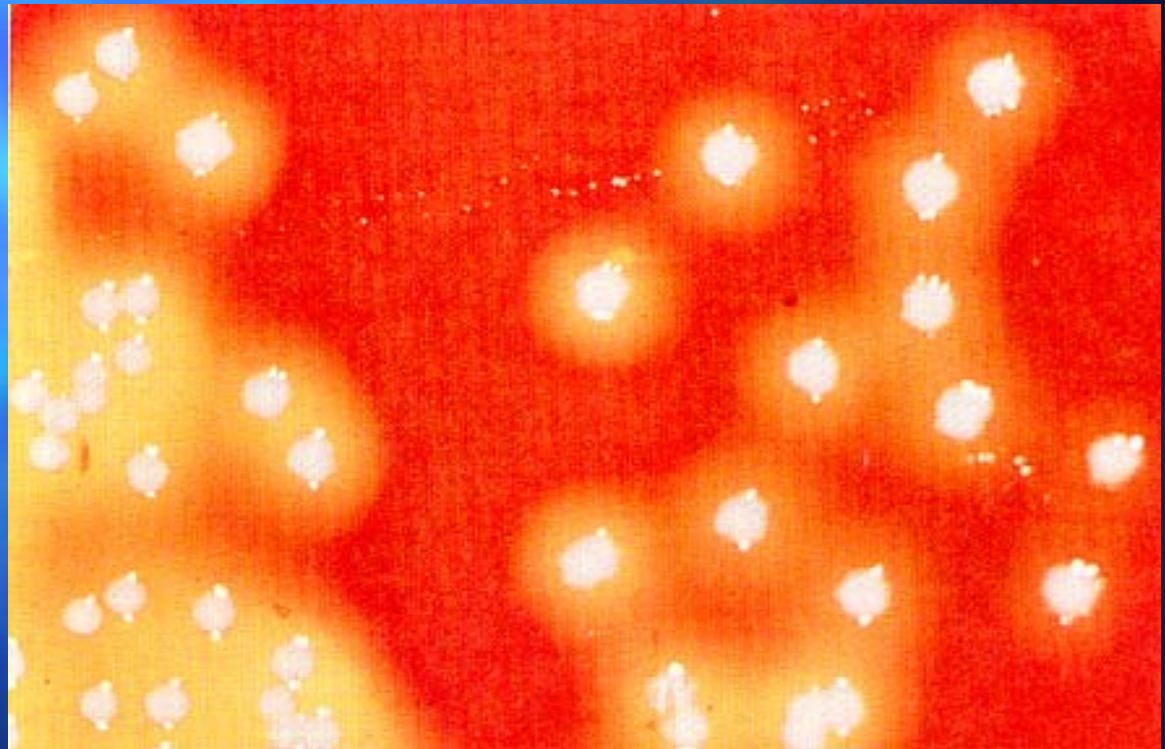
- Involved in 95% of simple cases of eczema
- Leads to worsening of clinical symptoms
- Causes secondary infection
- Prevents topical steroids from working
- Present in most cases of acne
- Prevalant bacterium in psoriasis

Staphylococcus aureus



Bunches of Grapes

Staphylococcus aureus - The "Golden" Bacterium

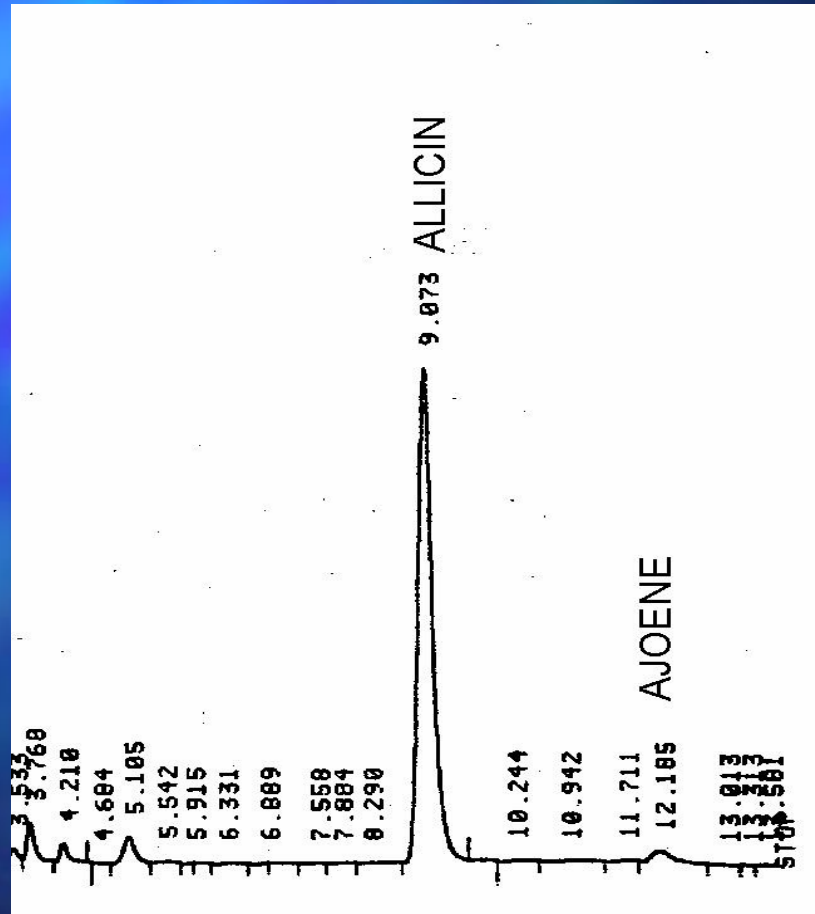
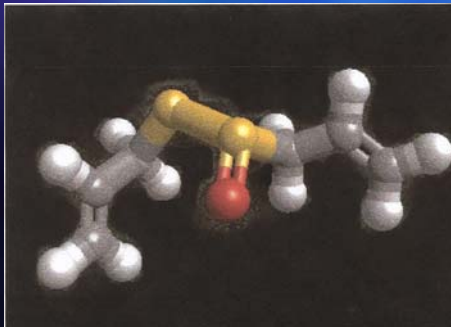


Effect of skin condition on carriage

PERCENTAGE
PREVALENCE
OF S.AUREUS

SITE	Normal	Eczema	Psoriasis
Nose	34	59	37
Cheek	7	63	16
Chest	3	48	21
Forearm	2	63	16
Scapula	2	46	37

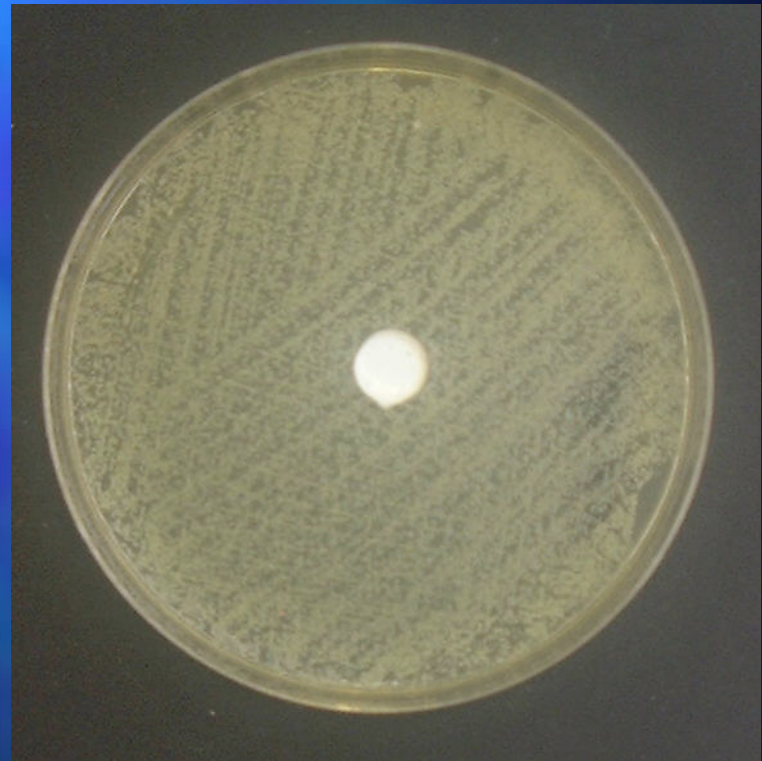
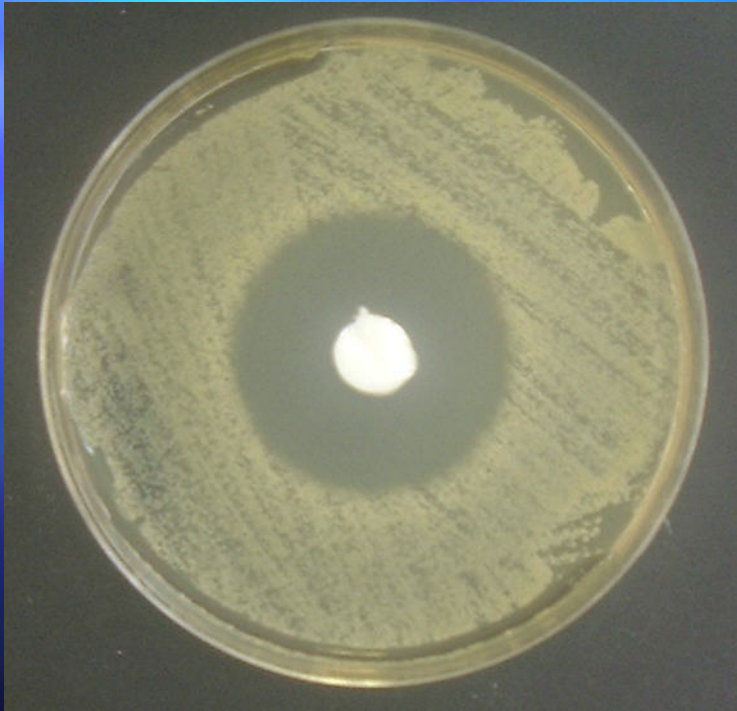
Purity of Allicin using HPLC



Allicin kills Staph. aureus

- Work completed at The University of East London
- 30 bacterial strains were tested 12 were resistant to pharmaceutical antibiotics
- ALL strains were sensitive to Allicin

ALLIMAX vs MUPIROCIN (a pharmaceutical antibiotic)

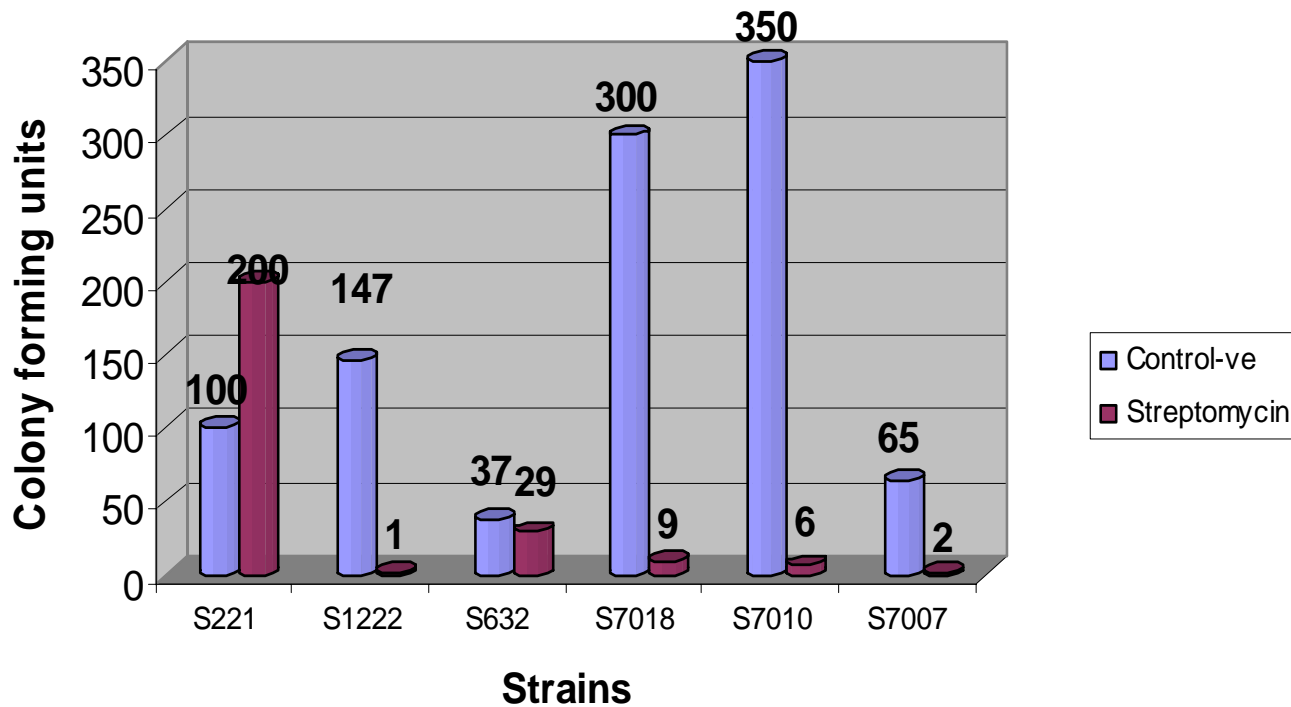


Multi drug resistant TB

- Mycobacterium tuberculosis identified in 1882 with nodular lesions in tissue
- Disease can lay dormant for many years
- Chronic infection is spread very easily by coughing or sneezing
- Often treated by combinations of antibiotics including streptomycin and rifampicin

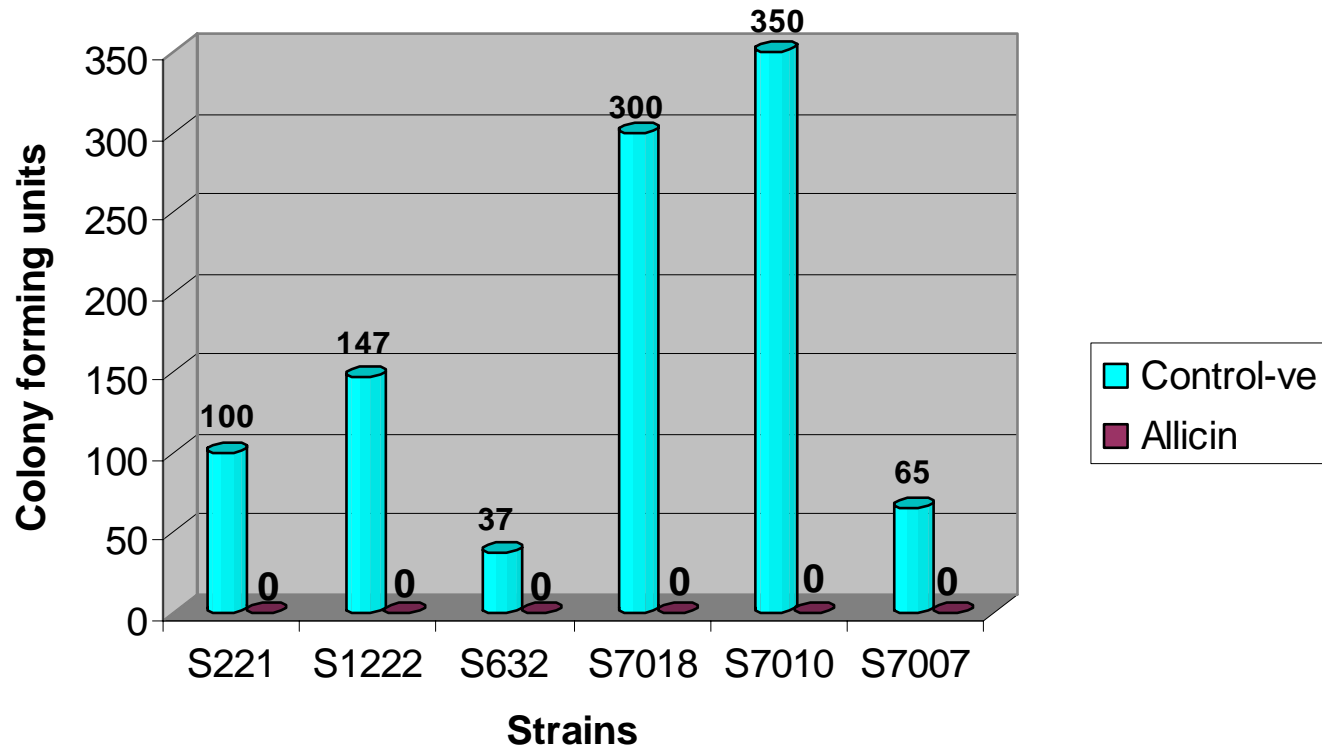
TB isolates from taken from The Royal London June 2002

Activity of Streptomycin against MDRTB



MDR-TB exposed to Allicin

Activity of Allicin against MDR-TB



Conclusions

- Any growth in the presence of an antimicrobial is significant with MDR *Mycobacterium tuberculosis*
- Growth was noted on all slopes where strains were treated with Streptomycin
- No Growth was found on any of the slopes where strains were treated with Allicin

Allicin range to be available

- Allicin cream – for all skin conditions
- Allicin liquid – for nail infections and herpes virus
- Allicin plus Ginger for travellers tummy
- Allicin throat spray for chest infections
- Allicin plus a probiotic for IBS