antibiotics GENESPIN DATA SHEET

# > Ampicillin Sodium Salt

| cat. no. | amount | note |
|---|---|---|
| STS-AMP5 | 5g | powder |
| STS-AMP25 | 25g | powder |

Ampicillin is a beta-lactam antibiotic active against Gram-positive (e.g. Staphylococci and Streptococci) as well as some Gram-negative (e.g. coliforms) oragnisms. Ampicillin acts as a competitive inhibitor of the enzyme transpeptidase, which is needed by bacteria to make their cell walls. It inhibits the third and final stage of bacterial cell wall synthesis in binary fission, which ultimately leads to cell lysis.
Ampicillin is often used as a selective agent in molecular biology to select for and to confirm the uptake of genes (e.g., of plasmids) by bacteria (e.g., E. coli). A gene that is to be inserted into a bacterium is coupled to a gene coding for an Ampicillin resistance (in E. coli, usually the bla (TEM-1) gene, coding for β-lactamase). The treated bacteria are then grown in a medium containing Ampicillin (typically 100 mg/L). Only the bacteria that successfully take up the desired genes become Ampicillin resistant, and therefore contain the other desired gene as well.

Chemical Name
(2S,5R,6R)-6-([(2R)-2-amino-2-phenylacetyl]amino)-3,3-dimethyl-7-oxo-4-thia-1azabicyclo[3.2.0]
heptane-2-carboxylic acid
Formulation
$C_{16}H_{19}N_3O_4S$
Molecular Weight
349,41

Solubility
Soluble in water.
As a powder, Ampicillin is white with slight yellow cast and is soluble in water (up to 500 mg/ml).

Storage
Store dry at 2-5°C.

FOR RESEARCH USE ONLY