

## PRODUCT INFORMATION

### Auresine®

1mg/ml

1 mg (lyophilizate)

200 mg (lyophilizate)

Recombinant<sup>1</sup>, from *Pichia pastoris*

Store at room temperature (lyophilizate)

or at +4°C (in Storage Buffer)

EC 3.4.24.75

CAS NR: 2106847-48-5

Molecular mass: 14.4 kDa

pH optimum 7-9

#### Product description

Auresine is a *Staphylococcus aureus* zinc metalloprotease. The enzyme has glycyl-glycine endopeptidase activity and it specifically cleaves polyglycine crosslinks in the cellular wall of *Staphylococcus* species, including *Staphylococcus aureus*, which leads to cell lysis.

Specific activity: 500 units/mg protein

Unit definition: One unit will reduce the turbidity ( $A_{600}$ ) of suspension of *S. aureus* cells from 0.250 to 0.125 in 10 minutes in 50 mM glycine, pH 8.0 at 25°C in 6.0 mL reaction mixture.

#### Applications

- Surface disinfection (active substance in bacteriostatic and bactericidal formulations against staphylococcal strains).
- Laboratory use (component of kits for isolation of protoplasts, nucleic acids, proteins, lipids and other components of Gram positive bacterial cells. Thanks to the unique activity in non-physiological conditions (low

conductivity and low temperatures) the isolated components, like nucleic acids and proteins are not prone to degradation by released cellular enzymes).

#### Preparation Instructions

Auresine is soluble in water (20 mg/ml), yielding a clear solution. The product is active in 100 nM concentration (1.4 µg/mL) in low conductivity buffers ( $\leq 2$  mS/cm) at temp. 0-40°C.

#### Storage/Stability

Lyophilized powder should be stored at room temperature. Once dissolved in storage buffer, Auresine is stable at room temperature up to 4 months, at 4°C, -20°C, -80°C up to 2 years.

#### Deactivation

All activity of 100 nM enzyme is abolished by incubation with 1 µM EDTA for 5 minutes at room temperature.

#### Storage buffer:

20 mM Tris-HCl, pH 7.0, 200 mM NaCl, 10% glycerol.

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household or other uses.

#### References

- Jagielska E et al. (2016) *Microb Drug Resist Sep 22(6):461-9.*
- Grabowska M et al. (2015) *Sci Rep. Oct 6;5:14833.*
- Sabala I et al. (2014) *FEBS J. Sep;281(18):4112-22.*
- Sabala I et al. (2012) *BMC Microbiol. Jun 6;12:97.*

<sup>1</sup>European Patent No. 2699254

### Auresine specificity

Species	Auresine (-NaCl)
<i>Staphylococcus aureus</i> NCTC 8325-4	+++
<i>Staphylococcus aureus</i> NCTC 4163	++
<i>Staphylococcus aureus</i> ATCC 25923	++
<i>Staphylococcus aureus</i> MRSA, 394	++
<i>Staphylococcus aureus</i> MRSA, 514	+
<i>Staphylococcus aureus</i> MRSA, 522	++
<i>Staphylococcus aureus</i> MRSA, 570	+++
<i>Staphylococcus aureus</i> MRSA, 571	+++
<i>Staphylococcus aureus</i> MRSA, 572	+++
<i>Staphylococcus aureus</i> MRSA, 573	+++
<i>Staphylococcus aureus</i> MRSA, 580	+++
<i>Staphylococcus aureus</i> MRSA, 585	+++
<i>Staphylococcus aureus</i> MRSA, 586	+++
<i>Staphylococcus agneti</i>	++
<i>Staphylococcus capitis</i>	++
<i>Staphylococcus carnosus</i>	+++
<i>Staphylococcus epidermidis</i> ATCC 12228	+++
<i>Staphylococcus epidermidis</i> ATCC 35984	++
<i>Staphylococcus haemolyticus</i>	++
<i>Staphylococcus hyicus</i>	+
<i>Staphylococcus lentus</i>	+
<i>Staphylococcus lugdunensis</i>	+
<i>Staphylococcus pasteurii</i>	-
<i>Staphylococcus pettenkoferi</i>	+
<i>Staphylococcus saprophyticus</i>	+++
<i>Staphylococcus simulans</i>	+++
<i>Staphylococcus warneri</i>	+++
<i>Staphylococcus xylosum</i>	++
<i>Salinicoccus roseus</i>	++
<i>Pseudomonas aeruginosa</i>	-
<i>Bordatella bronchiseptica</i>	-
<i>Salmonella enterica</i> subsp. <i>enterica</i>	-
<i>Klebsiella pneumoniae</i>	-
<i>Escherichia coli</i>	-
<i>Proteus vulgaris</i>	-
<i>Bacillus subtilis</i>	-

Auresine activity was measured in turbidity reduction assay. Bacterial cells were suspended to an apparent OD<sub>600</sub> of 1.0 in 50 mM glycine, pH 8.0. The test was performed at room temperature in 1h with 100 nM Auresine.

The number of + indicates the % of reduction of initial OD<sub>600</sub>:

- 0-25%
- + 25-50%
- ++ 50-75%
- +++ 75-100%.

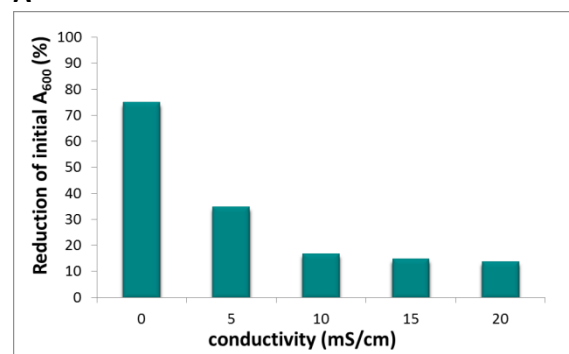
<sup>1</sup>European Patent No. 2699254

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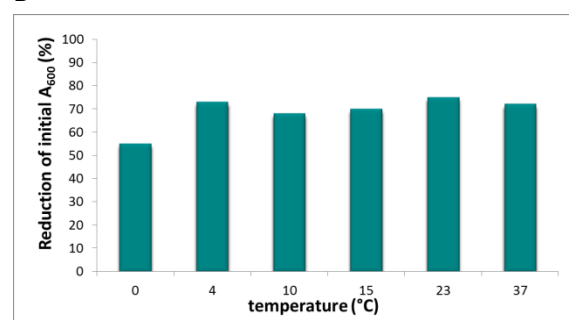
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Auresine activity in various conductivity (A) and temperatures (B) conditions.

A



B



Turbidity reduction assay was performed in 50 mM glycine, pH 8.0, at room temperature in 1h with *Staphylococcus* cells suspension at initial OD<sub>600</sub> = 1.0 and 100 nM Auresine.