

50875 GSP Agar (*Pseudomonas Aeromonas* Selective Agar acc. to Kielwein, Glutamate Starch Phenol Red Agar)

For the detection of *Pseudomonas* and *Aeromonas* in food, as well as in the equipment and water supplies of food-processing firms.

Composition:

Ingredients	Grams/Litre
Sodium L-glutamate	10.0
Starch (soluble)	20.0
Potassium dihydrogen phosphate	2.0
Magnesium sulfate	0.5
Phenol red	0.36
Agar	12.0

Final pH 7.2 +/- 0.2 (at 25°C)

Store prepared media below 8 °C, protected from direct light. Store dehydrated powder in a dry place in tightly-sealed containers at 2-25 °C.

Directions:

Dissolve 44.86 g in 1 litre distilled water and sterilize by autoclaving at 121 °C for 15 minutes. Cool to 45-50 °C and add 100 IU/ml penicillin G (Cat. No. 13752) and, if desired, 10 µg/ml pimaricin (Cat. No. P0440). Mix well and pour into sterile petri plates.

Principle and Interpretation:

Glutamate and starch are the sole sources of nutrients in GSP agar. Many microorganisms cannot metabolize these compounds⁵. Starch is degraded by *Aeromonas* with the production of acid and causes phenol red to change color to yellow. *Pseudomonas* grow luxuriant on this medium but do not degrade starch. Selective inhibitors like penicillin and pimaricin are added to the medium to suppress the growth of many Gram-positive organisms and fungi.

Cultural characteristics after 24-48 hours at about 28 °C.

Organisms (ATCC)	Growth	Starch hydrolysis (color change from red-violet to yellow)
<i>Aeromonas hydrophila</i> (7966)	+++	+
<i>Pseudomonas aeruginosa</i> (27853)	+++	-
<i>Escherichia coli</i> (25922)	-/+	-
<i>Staphylococcus aureus</i> (25923)	-	-



References:

1. G. Kielwein and R. Gerlach, H. Johne, Untersuchungen über das Vorkommen von *Aeromonas hydrophila* in Rohmilch, Arch. f. Lebensmittelhyg., 20, 34 (1969)
2. G. Kielwein, Ein Nährboden zur selektiven Züchtung von Pseudomonaden und Aeromonaden, Arch. f. Lebensmittelhyg., 20, 131 (1969)
3. G. Kielwein, Pseudomonaden und Aromonaden in Trinkmilch: Ihr Nachweis und ihre Bewertung, Arch. f. Lebensmittelhyg., 22, 15 (1971)
4. G. Kielwein, Die Isolierung und Differenzierung von Pseudomonaden aus Lebensmitteln, Arch. f. Lebensmittelhyg., 22, 29 (1971)
5. R.Y. Stainer, N.J. Palleroni, M. Doudoroff, The aerobic Pseudomonas, a taxonomic study, J. Gen. Microbiol., 42, 159 (1966)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

The vibrant M, Millipore, and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. Detailed information on trademarks is available via publicly accessible resources.
© 2018 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

