AuSaMicS™ Life Science

Technical Data Sheet

TDS-AS-1249

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Product Identification

Product Name	Helicobacter pylori Selective Medium Base
Catalog No.	AS-1249
Lot No.	HPS260301
Mfg. Date	March 2026
Retest Date	March 2028
Grade	Microbiological / Selective Grade
Base Medium	Columbia Blood Agar Base + selective antibiotic supplement + defibrinated sheep blood

Physical & Chemical Properties

Appearance (powder)	Homogeneous, free-flowing powder; light beige to pale pink
Appearance (prepared)	Opaque, red-brown gel with 5% sheep blood; homogeneous
Odour	Faint, characteristic (blood agar)
pH (prepared, 25 °C)	7.3 ± 0.2
Agar gel / melt	Gels ~32–34 °C / Melts ~84–86 °C
Loss on Drying	≤ 7.0% w/w (105 °C / 2 h)
Haemolysis Pattern	Gamma (non-haemolytic) for H. pylori colonies

Base Medium Composition per Litre (Columbia Base)

Component	Function	Amount (g/L)
Peptone (mixed — casein/meat/heart)	Nitrogen, amino acids — supports fastidious organisms	23.00
Cornstarch (soluble)	Carbon source + protective agent for organism viability	1.00

Component	Function	Amount (g/L)
Sodium Chloride	Osmotic balance	5.00
Agar (bacteriological grade)	Solidifying agent	10.00
TOTAL (base powder per litre)		39.00
Defibrinated sheep blood	Growth factors (haemin, NAD), haemolysis indicator — SUPPLEMENT	5–10% v/v

Antibiotic Selective Supplement

Antibiotic	Concentration (typical)	Target Organisms
Vancomycin	10 mg/L	Gram-positive bacteria
Trimethoprim	5 mg/L	Enteric Gram-negative bacilli
Cefsulodin	5 mg/L	Pseudomonas aeruginosa
Amphotericin B	2 mg/L	Yeasts and moulds

Preparation Protocol

Step 1 — Suspension	Suspend 39 g of dehydrated Columbia base in 1 L of purified/distilled water.
Step 2 — Dissolution	Heat with agitation until completely dissolved. Bring to a rolling boil for 1 minute.
Step 3 — Sterilisation	Autoclave at 121 °C (15 psi) for 15 minutes. Do not over-autoclave.
Step 4 — Cooling	Cool to 45–50 °C in a water bath. Temperature is critical — above 50 °C will lyse blood cells.
Step 5 — Blood addition	Aseptically add 5–10% v/v defibrinated sheep blood (pre-warmed to 45 °C). Mix gently — avoid frothing.
Step 6 — Antibiotics	Add antibiotic selective supplement aseptically per manufacturer's instructions. Mix gently.
Step 7 — Pouring	Pour 15–20 mL per 90 mm Petri dish under laminar flow. Allow to solidify on a level surface.

Step 8 — Drying	Dry plates at 37 °C for 30–45 min. Store at 2–8 °C in sealed bags. Use within 2 weeks.

Incubation Conditions

Temperature	37 °C (optimal); up to 42 °C for primary clinical isolates
Atmosphere	Microaerophilic: 5–10% CO_2, 5–10% O_2, balance N_2 (CampyPak or equivalent generator)
Duration	3–7 days; examine at 72 h then every 24 h
Humidity	≥ 95% RH — critical; prevent plate desiccation by sealing or humidified incubation
Do NOT use	Aerobic or anaerobic conditions — H. pylori will not grow

Quality Control Specifications

Parameter	Specification	Method
Appearance (powder)	Homogeneous; light beige to pale pink; no lumps	Visual inspection
pH (prepared, 25 °C)	7.1 – 7.5	Potentiometry (ISO 10523)
Loss on Drying	≤ 7.0% w/w	105 °C / 2 h (gravimetric)
Growth — H. pylori ATCC 43504	Good growth; small translucent colonies ≤ 5 days	Microaerophilic culture
Inhibition — E. coli ATCC 25922	Complete / ≥ 99% inhibition	Selectivity test
Inhibition — Candida albicans ATCC 10231	Complete inhibition	Antifungal selectivity
Haemolysis pattern	Gamma (non-haemolytic) for H. pylori colonies	Visual — plate check
Sterility (prepared medium)	No growth at 14 days (30–35 °C, aerobic)	Incubation sterility check

Technical References

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Primary Reference	Marshall & Warren (1984). Lancet, 323:1311–1315
Clinical Standard	Maastricht V/Florence Consensus (2017). Gut, 66(1):6–30
Diagnostic Method	Culture — gold standard for H. pylori AST and genotyping
Safety Reference	IARC Monograph Vol. 61 (1994): H. pylori classified Group I carcinogen
Containment	PC2 laboratory required. Handle per AS/NZS 2243.3:2010 Biosafety in Laboratories