

Common Reagent Shelf Lives

Typical storage temperature and shelf life for reagents you will prepare, aliquot, or open often.

Reagent	Storage	Typical shelf life once opened/prepared
DTT (1 M aqueous stock)	-20°C	~1 year frozen; ~1 month at 4°C once thawed (oxidises in solution)
Beta-mercaptoethanol (neat)	4°C, dark	~1-2 years unopened; ~6 months once opened
Protease inhibitor cocktail (100x)	-20°C	~1 year frozen; single-use aliquots recommended once thawed
Glycerol stocks (bacterial, 15-25% glycerol)	-80°C	Years, if not repeatedly freeze-thawed
Enzyme aliquots (general, e.g. polymerase)	-20°C	~1-2 years per manufacturer expiry
Restriction enzymes	-20°C (cold block when in use)	~1-3 years per manufacturer; minimise freeze-thaw and bench time
Chemically competent cells	-80°C	~6-12 months; single freeze-thaw only
ATP stock (100 mM aqueous)	-20°C, small aliquots	~6-12 months; degrades faster with repeated freeze-thaw
GTP stock (100 mM aqueous)	-20°C, small aliquots	~6-12 months; degrades faster with repeated freeze-thaw
dNTP mix (10 mM each)	-20°C	~1-2 years; avoid repeated freeze-thaw
Primer stocks (100 µM)	-20°C	~1-2 years; working 10 µM dilutions ~6 months at -20°C
Primary antibody dilutions (working)	4°C	Days to a few weeks; check the datasheet, many tolerate reuse if kept cold and sterile
Buffer stocks with reducing agents	4°C, add reducing agent fresh	Base buffer stable for months; add DTT/BME immediately before use
LB agar plates with antibiotic	4°C, sealed	~4-6 weeks; antibiotic activity declines over weeks
Glucose solution (sterile, e.g. 20%)	Room temperature or 4°C	~6-12 months if sterile-filtered and sealed
IPTG stock (1 M aqueous)	-20°C	~1 year
Ethidium bromide stock (10 mg/mL)	4°C, dark	~1-2 years, protected from light
Fetal bovine serum (FBS)	-20°C; 4°C once thawed	~1 year frozen; ~2-4 weeks at 4°C once thawed
Complete cell culture media (supplemented)	4°C, dark	~2-4 weeks once supplemented
Trypsin-EDTA (working solution)	-20°C aliquots; 4°C short-term	~1 year frozen; ~1 month at 4°C once thawed

Typical guidance, not a guarantee: institutional QC and the supplier's certificate of analysis override anything printed here.

Source: manufacturer technical and safety data sheets (Sigma-Aldrich, Thermo Fisher, New England Biolabs); general storage guidance corroborated across standard molecular biology methods manuals.

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For guidance on documenting bench recipes and reproducibility, see the Biotech Techniques Bible series.

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