

Technical Data Sheet

Tricine

for biochemistry

Order number: 1269

Tricine or N-[Tri(hydroxymethyl)methyl]glycine is a water-soluble, membrane-impermeable, zwitterionic buffer with a pK_{a2} of 8.15 at 20 °C. Its useful buffering range of pH is 7.4-8.8.

As its name implies, Tricine's structure is a combination of tris and glycine, sharing their nitrogen atom. It is widely used in biochemistry and molecular biology as an electrophoresis buffer. Since Tricine has the capability to form a complex with metal ions such as Mg^{2+} , Ca^{2+} , Ni^{2+} , Co^{2+} , Zn^{2+} and Cu^{2+} , stability constants and concentrations should be considered when working with Tricine. Tricine can neutralize hydroxyl radicals with the formation of formaldehyde. As shown in studies with different peroxide-producing enzymes, Tricine tends to form tricin nitroxide radicals in the presence of oxidase activity.

Applications

Tricine is commonly used instead of glycine as a trailing ion in SDS-PAGE for separation of small peptides. Compared to glycine, Tricine is more negatively charged which allows a faster migration. In addition, its high ionic strength causes more ion movement and less protein movement. This allows for low molecular weight proteins (5 - 20 kDa) to be separated in lower percent acrylamide gels without the need to use urea - another advantage since both, glycine and urea, can cause interference in subsequent amino acid sequencing. Tricine is also used as a resuspension buffer for cell pellets for performing cell assays. Tricine is suitable for several types of enzyme assays, especially firefly luciferase-based ATP assays. Tricine does not interfere with the Lowry protein assay but is not suitable for use with the BCA assay. To prepare a stock solution, dissolve 1 mol/l Tricine in water and adjust to the desired pH with NaOH. Sterilization by filtration is recommended.

Storage and Stability:

Store Tricine powder and sterile solutions at ambient temperatures.

Related products

1125	Tris Xtrapure for biochemistry
1165	Tris hydrochloride for biochemistry
1111	DTT for biochemistry
1271	D-Luciferin sodium salt for molecular biology
1177	SDS ultrapure for molecular biology

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