

Table 1. Compatibility of reagents with Ni-NTA

Reagent	Effect	Comments
Buffer reagents		
Tris, HEPES, MOPS	Buffers with secondary or tertiary amines may reduce nickel ions	Up to 100 mM can be used, however sodium phosphate or phosphate-citrate buffer is recommended
Chelating reagents		
EDTA, EGTA	Strip nickel ions from resin	Up to 1 mM has been used successfully in some cases, but care must be taken
Sulfhydryl reagents		
β -mercaptoethanol	Prevents disulfide cross-linkages. Can reduce nickel ions at higher concentration	Up to 20 mM can be used. Do not store resin under reducing conditions
DTT, DTE	At high concentrations (>1 mM) resin may turn reversibly brown due to nickel reduction. Up to 10 mM has been tested and shown not to compromise purification or increase nickel leaching.	Up to 10 mM DTT has been used successfully. Do not store resin under reducing conditions.
Detergents		
Nonionic detergents (Triton®, Tween®, NP-40, etc.)	Removes background proteins and nucleic acids	Up to 2% can be used
Cationic detergents		Up to 1% can be used
Nonionic detergents (β -OG, DM, DDM, Cymal 6, Apo12 9, NG and others)	Resolubilization and purification of membrane proteins	Up to 2% can be used
Zwitterionic detergents (LDAO, CHAPS, CHAPSO)	Removal of background proteins and nucleic acids; purification of membrane proteins	Up to 1% can be used