

# Protino® Ni-TED/IDA... the purer alternative for His Tag protein purification

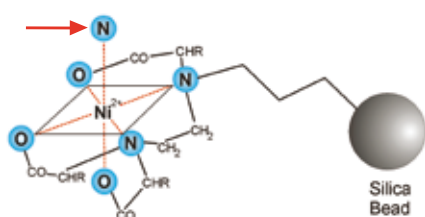
## Principle

Protino® Ni-TED/IDA products enable fast and convenient purification of polyhistidine-tagged proteins by immobilized metal ion affinity chromatography (IMAC). Both matrices are dry silica-based resins pre-charged with Ni<sup>2+</sup> ions, developed and manufactured by MACHEREY-NAGEL.

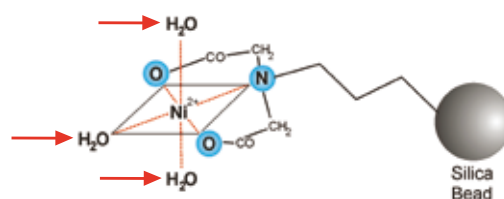
The chelating group of Protino® Ni-TED is based on TED (triscarboxymethyl ethylene diamine), a strong pentadentate metal chelator. Protino® Ni-IDA is based on IDA (iminodiacetic acid) which is a threedentate chelator. In contrast to traditional IDA matrices, Protino® Ni-IDA shows an optimized low ligand density which is created by a specialized manufacturing process. This leads to improved purity with Protino® Ni-IDA compared to traditional IDA matrices.

The single protein binding site with Protino® Ni-TED as well as the low ligand density with Protino® Ni-IDA minimize non-specific binding of contaminating proteins to the resins. As a result both resins ensure higher target protein purity than Ni-NTA and Ni-IDA Agarose matrices.

### Protino® Ni-TED

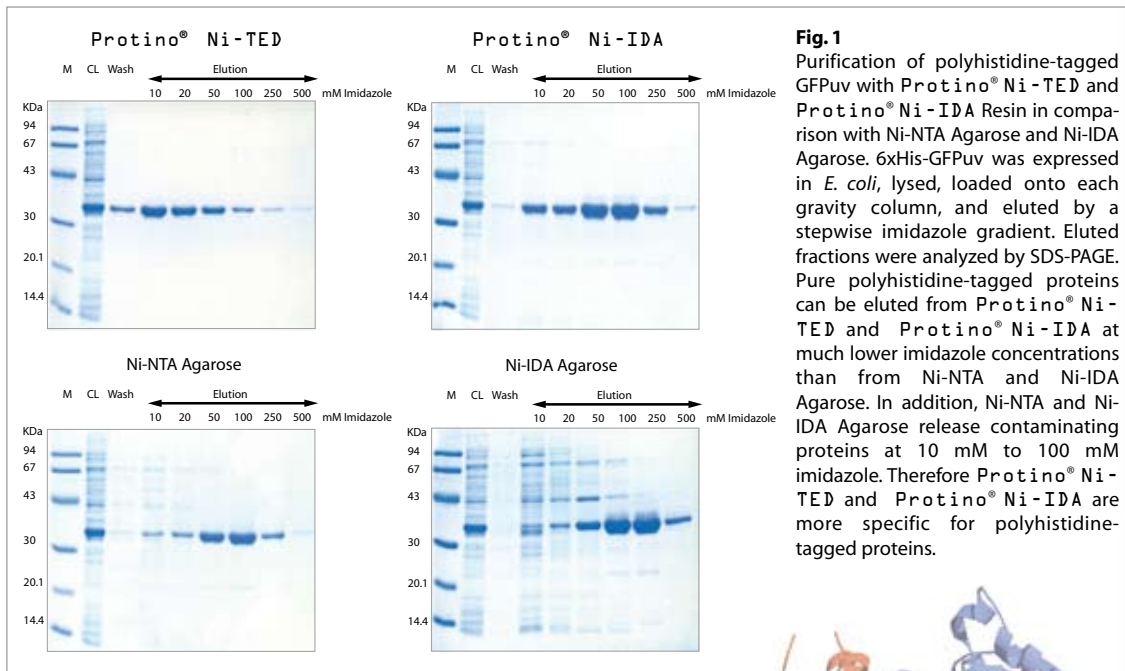


### Protino® Ni-IDA



Matrix	macroporous silica	
Chelating group	TED	IDA
Binding sites Ni <sup>2+</sup> to His-Tag (→)	1	3
Binding sites ligand to Ni <sup>2+</sup>	5	3
Ligand density	high	low
Binding capacity*	10 mg/g resin	20 mg/g resin
Specification	high binding specificity	
	less unspecific binding of contaminating proteins compared to Ni-NTA and Ni-IDA Agarose	
	elution at low imidazole concentrations possible	
	high stability against reducing/chelating agents	<b>high protein yield/recovery even from diluted samples</b>
	low metal leaching	<b>high protein concentration</b>
	<b>high protein purity</b>	

\* determined with 6xHis-GFPuv (32 kDa)



**Fig. 1**  
Purification of polyhistidine-tagged GFPuv with Protino® Ni-TED and Protino® Ni-IDA Resin in comparison with Ni-NTA Agarose and Ni-IDA Agarose. 6xHis-GFPuv was expressed in *E. coli*, lysed, loaded onto each gravity column, and eluted by a stepwise imidazole gradient. Eluted fractions were analyzed by SDS-PAGE. Pure polyhistidine-tagged proteins can be eluted from Protino® Ni-TED and Protino® Ni-IDA at much lower imidazole concentrations than from Ni-NTA and Ni-IDA Agarose. In addition, Ni-NTA and Ni-IDA Agarose release contaminating proteins at 10 mM to 100 mM imidazole. Therefore Protino® Ni-TED and Protino® Ni-IDA are more specific for polyhistidine-tagged proteins.



## Protino® Ni-TED/IDA

### Features

- Silica-based material, high stability
- Dry material, storage at room temperature
- High binding specificity, high protein purity

### Available

- Dry Protino® Ni-TED/IDA Resin, precharged with Ni<sup>2+</sup>
- Ready-to-use Protino® Ni-TED/IDA packaged columns
- Ready-to-use 96-well plates, filled with Protino® Ni-IDA Resin
- Empty Protino® columns (14mL/35mL volume capacity for use with Protino® Ni-TED Resin)
- Empty 96-well Receiver Plates for use with Protino® Ni-TED/IDA Resin

### Application Protino® Ni-TED/IDA Resin

- Batch binding, gravity flow chromatography, FPLC

### Ordering Information

Catalogue No	Capacity*	Quantity	Catalogue No	Capacity*	Pack of
Protino® Ni - TED 150 packed columns			(g)Protino® Ni - TED Resin		
NZ74510010	400µg	10 preps	NZ7452005	10mg/g	5
NZ74510050	400µg	50 preps	NZ74520030	10mg/g	30
Protino® Ni - TED 1000 packed columns			NZ745200120	10mg/g	120
NZ7451105	2.5mg	5 preps	NZ745200600	10mg/g	600
NZ74511050	2.5mg	50 preps	Protino® Ni - TDA Resin		
Protino® Ni - TED 2000 packed columns			NZ7452105	20mg/g	5
NZ7451205	5µg	5 preps	NZ74521030	20mg/g	30
NZ74512025	5µg	25 preps	NZ745210120	20mg/g	120
Protino® Ni - IDA 150 packed columns			NZ745210600	20mg/g	600
NZ74515010	800µg	10 preps	Catalogue No	Capacity	Quantity
NZ74515050	800µg	50 preps	Protino® Columns		
Protino® Ni - IDA 1000 packed columns			NZ74525010	14mL	10 pack
NZ74510010	5µg	10 preps	NZ74525510	35mL	10 pack
NZ74510050	5µg	50 preps	Receiver Plates hydrophilised**		
Protino® Ni - IDA 2000 packed columns			NZ7406894	50µm	4 pack
NZ74510010	10µg	10 preps			
NZ74510050	10µg	50 preps			
Protino® Multi-96 Ni-IDA					
NZ7453001	1mg	1 x 96			
NZ7453004	1mg	4 x 96			

\*determined with 6xHis GFPuv (32 kDa)

\*\* other Receiver Plate versions available