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made in EU

Boost the efficiency of DNA/RNA isolation with a custom-made

# Proteinase K



Molecular biology and NGS grade



Large production scale



Stable at room temperature

## Proteinase K tailored to your application

Proteinase K, provided in the lyophilized or liquid version, is a broad-spectrum endopeptidase of extraordinary specificity allowing highly effective digestion of proteins in many laboratory applications. We offer portioning and labeling of specific product quantities at the customer's request. Modern manufacturing facilities and a large production scale enable us to supply Proteinase K in bulk quantities with a short lead time. OEM and white labeling options are available.

## Typical applications of Molecular Biology Grade Proteinase K

- DNA/RNA isolation kits
- Removal of RNases and DNases during nucleic acid isolation
- Automated isolation stations
- Purification of samples contaminated with different protein

	Molecular Biology Grade	NGS Grade
Solubility in water	≥ 20 mg/ml	≥ 50 mg/ml
Activity	≥ 30 U/mg lyophilizate ≥ 40 U/mg protein ≥ 800 U/ml liquid	≥ 35 U/mg lyophilizate ≥ 45 U/mg protein
DNA content	≤ 10 pg/mg by qPCR ≤ 200 pg/ml by qPCR	≤ 0.1 pg/mg by qPCR

Table: The MB- and NGS-Grade Proteinase K comparison

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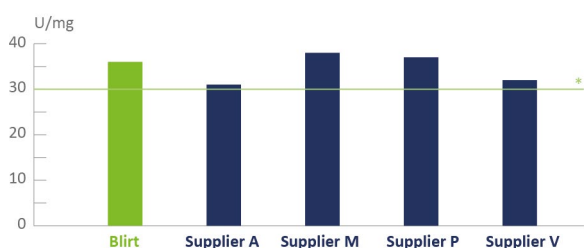
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# Proteinase K

## Technical information

### Activity

BLIRT's Proteinase K MBG activity is measured with its equivalent products from four various competitors. The same experimental conditions, with the unchanged concentration of Proteinase K, are used. The Proteinase K enzyme activity test, using hemoglobin as a substrate, shows  $\geq 30$  U/mg declared activity for all tested suppliers (Figure 1).

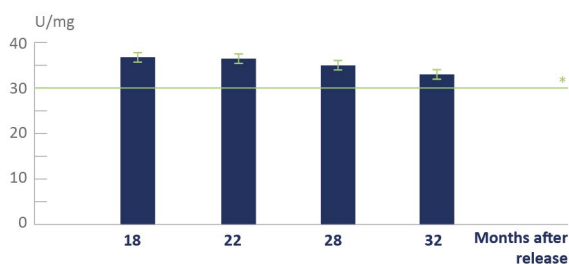


\* Green line represents declared minimum activity in lyophilized Proteinase K  $\geq 30$  U/mg.

Figure 1: Comparison of Proteinase K activity between BLIRT and competitive suppliers.

### Stability

Lyophilized Proteinase K MBG activity  $\geq 30$  U/mg is guaranteed by Certificate of Analysis for up to two years when stored at  $-20^{\circ}\text{C}$ . Additional experiments reveal only  $<14\%$  activity loss after almost three-year storage at  $-20^{\circ}\text{C}$ , which is still above-declared  $\geq 30$  U/mg (Figure 2). Such a highly stable activity is a significant feature in molecular biology kit development.



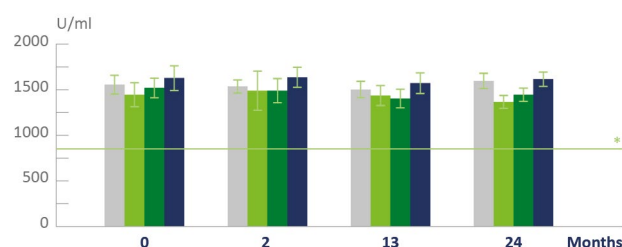
\* Green line represents declared minimum activity in lyophilized Proteinase K  $\geq 30$  U/mg.

Figure 2: Lyophilized Proteinase K activity measured for up to 32 months when stored at  $-20^{\circ}\text{C}$ .

Proteinase K MBG solution is recommended to be stored at  $-20^{\circ}\text{C}$ ,  $+4^{\circ}\text{C}$ , or room temperature to guarantee activity over 800 U/ml during at least 24 months.

There is no detectable difference in the stated enzyme activity stored at  $+4^{\circ}\text{C}$  and  $+37^{\circ}\text{C}$  for up to 18 months (data not shown). Stability examinations at all tested temperatures are in progress.

Liquid Proteinase K remains its activity when stored at RT for at least 24 months (Figure 3). Importantly, liquid Proteinase K remains its declared activity despite possible exposures to temperature oscillations, e.g. during transportation or experiments.

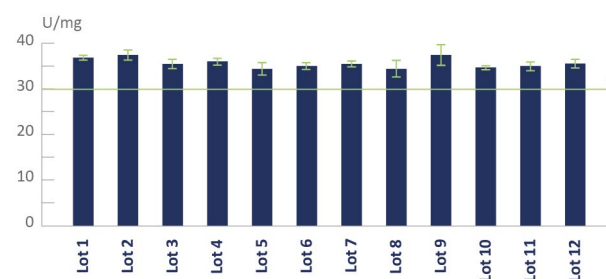


\* Green line represents minimum declared activity in a liquid form of Proteinase K  $\geq 800$  U/ml.

Figure 3: Liquid Proteinase K activity measured for up to 24 months when stored at RT.

### Batch-to-batch consistency

BLIRT's Proteinase K MBG activity measurements demonstrate very low batch-to-batch variability, both in a powder and liquid form of Proteinase K (Figure 4). Such a high reproducibility enables stable working conditions, and therefore repeatable and reliable experiments' results.



\* Green line represents declared minimum activity in lyophilized Proteinase K  $\geq 30$  U/mg.

Figure 4: Lyophilized Proteinase K activity measured among twelve independent batches.