

## Certificate of Analysis

**Product Name:** 4-Nitrophenyl- $\beta$ -D- galactosidase (p-Nitrophenyl- $\beta$ -D-galactoside; PNP- $\beta$ -D-Gal)  
**Cat #:** N-290  
**CAS #:** 3150-24-1  
**Lot #:** Lot Specific  
**Retest Date:** Lot Specific  
**Storage:<sup>†</sup>** Store at -20°C. Protect from light.

Test	Specs	Results
Color	white to off-white	white
Form	powder to crystalline powder	powder
Color of Solution (1% in water)	colorless to slightly yellow	slightly yellow
Turbidity of Solution	clear (max. 7.0 NTU)	clear
Water Content (K. Fischer)	max. 7.0%	6.2%
Melting Point	178 - 182°C	178°C
Specific Rotation $[\alpha]_D^{20}$ (c=1 in water, on dry matter)	-86.0 to -82.0	-84.3
Purity (HPLC)	min. 98.0 area-%	99.8 area-%
TLC (1-butanol/acetic acid/water 6:2:2; UV 254 nm)	corresponds to reference material	corresponds
Impurity (p-nitrophenol)	max. 0.05%	0.005%
FT-IR Spectrum	corresponds to reference spectrum	corresponds

\* Gold Biotechnology, Inc. provides this Certificate of Analysis in good faith and to the best of its knowledge. It should not be substituted for the user's own raw material quality control. This material is for laboratory use only.

<sup>†</sup> Storage at listed temperature applies to retest date (if shown) or two years from purchase date. Check label for long term storage conditions, which may extend the product beyond the retest date and/or greater than two years from purchase.

**Gold Biotechnology, Inc.**  
 1328 Ashby Rd.  
 St. Louis, MO 63132  
 P: (314)890-8778  
 F: (314)890-0503  
 E: [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)