## Comparison of our quality grades

- 1N	Research grade	CCC grade basic	CCC grade classic	High Quality grade*	GMP grade
Applications	Kit alternative for basic research	Optimized, highly efficient DNA for basic research, pre-clinical and toxicology studies	Optimized, highly efficient for basic research, pre-clinical and toxicology studies, enzyme-free	DNA starting material for early clinical phase GMP production of e.g. AAV, CAR-T cells or mRNA vaccines	DNA of highest quality as starting material for clinical phases and market supply or DNA for direct human application
Characteristics					
			-	-	-
Produced by fermentation	l ⊗	⊗	$\otimes$	$\otimes$	$\bigotimes$
Guaranteed amount of plasmid DNA	<i>⊗</i>	$\bigotimes$	$\bigotimes$	$\bigotimes$	(⊗)**
Adjustment of DNA concentration included	S (S)	$\otimes$	$\bigotimes$	$\otimes$	$\bigotimes$
Customized filling included	$\bigotimes$	$\otimes$	$\otimes$	$\bigotimes$	(⊗)**
Certified quality incl. QC report	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
Storage of glycerol stock and retain samples for repeat orders	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
Antibiotics-free fermentation	S	$\otimes$	$\otimes$	$\otimes$	$\bigotimes$
Cultivation media according to EMA/410/01 rev.3, 2011/C 73/01 (TSE/BSE certificate)	S	S	$\otimes$	$\otimes$	$\otimes$
All raw materials according to EMA/410/01 rev.3, 2011/C 73/01 (TSE/BSE certificate)			$\otimes$	$\otimes$	$\otimes$
Completely enzyme-free			$\otimes$	$\otimes$	$\bigotimes$
Characterized and documented cell bank and pilot cultivation				$\otimes$	$\otimes$
Verified removal of bacterial endotoxins (LPS assay)	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
Removal of RNA and proteins	$\otimes$	$\otimes$	$\otimes$	$\otimes$	$\otimes$
Specific removal of bacterial chromosomal DNA and oc-forms		$\otimes$	$\otimes$	$\otimes$	$\otimes$
CGE analysis (ccc-supercoiled vs. oc plasmid topologies)		$\otimes$	$\otimes$	$\otimes$	$\bigotimes$
Extended specification			(⊗)**	$\otimes$	$\otimes$
Documentation according to GMP/GMP principles				$\otimes$	$\otimes$
Dedicated lab				$\otimes$	$\otimes$
QM system applied				$\otimes$	$\bigotimes$
Spatially separated upstream and downstream processes				$\otimes$	$\otimes$
Single use equipment					$\bigotimes$
Compliant with applicable GMP-guidelines and GMP certified					S

\*HQ: High Quality grade is produced in accordance with EMA guideline CHMP/BWP/2458/03 as the highest non-GMP quality standards | \*\*On request