



**LUPIN
MANUFACTURING
SOLUTIONS**

POWERING PEPTIDES FROM THE FIRST BUILDING BLOCKS

High-Purity Fmoc-Protected Amino Acids

Engineered for Precision.
Manufactured for Scale.

STRONG PEPTIDES BEGIN WITH STRONG BUILDING BLOCKS

Every coupling reaction, purification cycle, and scale-up milestone depends on the integrity of the starting amino acids. At Lupin Manufacturing Solutions (LMS) Fmoc-protected amino acids are developed & manufactured to deliver:



Consistent
coupling
performance



Controlled
stereo-
chemical
integrity



Low
impurity
burden



Cleaner
crude
peptide
profiles



Reduced
downstream
purification
effort

Designed to support peptide programs from early research & development to commercial manufacturing.

LC-MS / HRMS

Structural confirmation
& impurity detection



FTIR / NMR (¹H & ¹³C)

Functional and structural
integrity verification

HPLC / UPLC (UV & CAD)

Purity analysis and non-
UV impurity detection



**ANALYTICAL
DEPTH.
COMPLETE
CONFIDENCE.**



Karl Fischer

Moisture control

Chiral HPLC / Optical Rotation

Epimer detection



GC Headspace

Residual solvent compliance
with ICH Q3C

Regulatory-ready documentation supports global development and manufacturing programs.

MANUFACTURING EXCELLENCE

Our Dabhasa facility is designed for reliable, scalable production of Fmoc-protected amino acids. The process infrastructure includes:



Multi-purpose glass-lined, SS & Hastelloy reactors



Temperature capability: -30°C to +200°C



Pressure reactions up to 25 bar



Hydrogenation systems for sensitive chemistries



Lyophilization and spray drying



Milling and micronization capabilities

FLEXIBLE SCALE



Supported by strong process engineering, quality systems and cGMP facility – We scale with you.

EXPANDING PORTFOLIO

Our first set of Fmoc-protected amino acids are available for evaluation and early-stage peptide programs.

PRODUCT	CAS	SAMPLES
Fmoc-Ala-Thr(Psi(Me,Me)Pro)-OH	252554-79-3	Available
Fmoc-Glu-OtBu	84793-07-7	Available
Fmoc-Thr(tBu)-OH	71989-35-0	Available
Fmoc-Glu(OtBu)-OH x H ₂ O	204251-24-1	Available
Fmoc-Arg(Pbf)-OH	154445-77-9	Available

LMS also supports the development and supply of:



Natural amino acids



Non-natural amino acids



Side-chain protected derivatives



Complex Fmoc-AA chemistries



Custom synthesis programs

Strengthen Your Peptide Pipeline - Starting from the First Building Block

Ready to elevate your peptide programs?

Request samples, certificates of analysis, or a custom quotation from our team.

Lupin Manufacturing Solutions Limited (LMS), a wholly-owned subsidiary of Lupin Limited, is a leading manufacturer of active pharmaceutical ingredients (APIs) and a global contract development and manufacturing organization (CDMO) offering standalone & integrated solutions across drug substance, complex chemistry, drug product, and advanced modalities including ADCs and peptides. Leveraging Lupin's legacy of scientific rigor and regulatory expertise, LMS supports biopharma innovators from early development to commercial scale. With state-of-the-art facilities, a client-first approach, and a team of 250+ scientists, LMS accelerates the path to market for transformative therapies.

LMS is where science meets speed, and innovation meets execution.

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