



**Marinomed Biotech AG** is an Austrian biopharmaceutical company with extensive know-how in virology and immunology offering a variety of in-vitro and ex-vivo assays as well as pharmaceutical development services.

### Toxicological studies

Cyto-tox	Various cell lines from various species and organs, e.g. Vero, L929, HCE-S,... or primary cells (PBMC, BMMC)
Hemolysis	On red blood cells

### Immunological assays

T-cells	Jurkat cell lines, primary human cells/stimuli PMA-Iono/CD3-CD28 pathways/different cytokines
Dendritic cells	Cell line DC18C10/stimuli PMA, LPS/NF-kB pathway/TNF-alpha and other cytokines
Mast cells	CFTL-12, primary mouse cells/stimuli PMA-Iono, IgE-AG/calcineurin inhibitors (or clobetasol) for TNF-alpha, histamine release, other cytokines and chemokines

### Antiviral activity assays

Hemagglutination inhibition	Influenza A viruses endemic and pandemic (e.g., H1N1, H3N2, H7N7) Influenza B virus (e.g., Yamagata) Human Coronavirus OC43 Human Parainfluenzavirus 3
Infectivity assay (single round)	SARS-CoV-2 Lentivirus pseudovirus (Wuhan and variants of concern)
Replication inhibition assay	Influenza virus A H1N1, H3N2, H5N1, H7N7 Human Rhinovirus major and minor group Coxsackie A10 + A24 Herpes simplex virus 1 +2
Neuraminidase inhibition	Various influenza viruses (RBC or biochemically)

### Decongestion assays

FACS-analysis	Cell size determination
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### Dehydration/moisturization assays

Cell assays	Product relevant cells and cell lines, e.g. HCE-S, A549...
Ex-vivo	Porcine eye – cornea Porcine nasal mucosa

### Diffusion/barrier assay

In-vitro	For allergens, particles
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### Permeation

In-vitro	PAMPA (cell-free system)
Ex-vivo	Porcine eyes (cornea, conjunctiva, aqueous humor, sclera, vitreous, retina,...) Porcine nasal mucosa (cavity, septum) Porcine stomach (fundus, corpus) Porcine oral cavity (lingual, buccal mucosa)

### Pharmaceutical development (liquids)

Formulation	Solubility studies, formulation development, primary packaging compatibility
Physico-chemical parameters	Appearance (clarity and color), pH, conductivity
HPLC analytics	RP-HPLC various detection methods (CAD, DAD, UV/Vis, RI, fluorescence), method development, forced degradation studies
Stability studies	At 25°C/60%RH, 30°C/75%RH, 40°C/75%RH



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