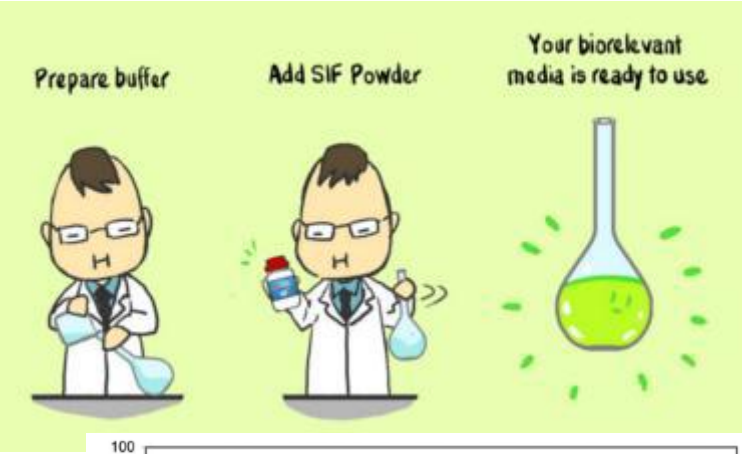
Interchim Innovations

Interbiotech - BioScience Innovations

H10E

SIF Media (Simulated Intestinal Fluids)

Developing an oral drug with low solubility,
you need to know how it dissolves in the intestines so it can be absorbed.



SIF media can be used **to investigate the release characteristics of drugs and drug products in the stomach and small intestine, with food effects**.

SIF Powder is a patented complex of Taurocholate and Lecithin (4:1 molar ratio) based on Professor Jennifer Dressman's original formulation**.** It simplifies greatly the conventional methods of preparing biorelevant dissolution media simulating conditions in the proximal small intestine, that were proposed in 1998 [(1)] but remained very slow, complicated and expensive.

SIF Powder Original makes in seconds!
-Fasted-State Simulated Intestinal Fluid (**FaSSIF**),
-Fed-State Simulated Intestinal Fluid (**FeSSIF**), and
-Fasted-State Simulated Gastric Fluid (**FaSSGF**)

Mimicking intestinal juices, biorelevant SIF media contain **natural surfactants** (bile salts, phospholipids) which increase drug solubility a lot. Tests in these media enable you to see how much of your drug and formulation will dissolve in the intestines (**drug solubility**) and how quickly this will happen (**drug dissolution**). You also can appreciate how the drug could be affected in vivo by the variations in bile salt/lecithin ratio within the range found in hu-man small intestinal fluids.

This can so reduce the number of expensive *in vivo* studies needed.

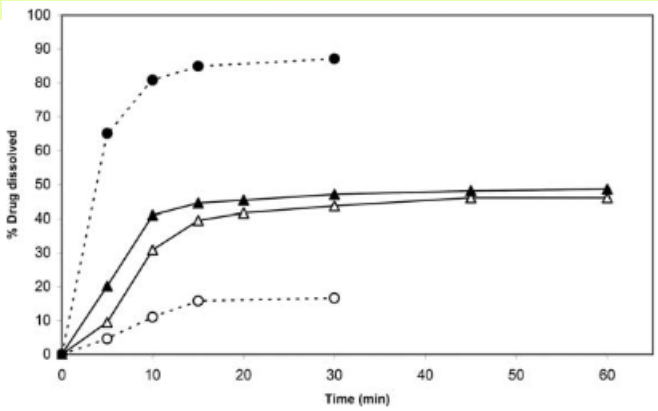


Figure 2. Dissolution profile comparison of glibenclamide tablets (Euglucon N) in FaSSIF (●) and FeSSIF (○) (dotted lines), and in FaSSIF-V2 (▲) and FeSSIF-V2 (△) (continuous lines). (Reproduced from ref 10.)

Composition

Medium:	**FaSSIG**	**FeSSIG**	**FaSSGF**	**FaSSIG-V2**	**FeSSIG-V2**	**FaSSCoF**	**FeSSCoF**
P/N	# 1A7101 (SIF Media Powder)			#1D1011	#1Q7710	#BFWUJ0	#BFWUK0
Component	Technical sheet			Technical sheet			
Taurocholate	3mM	15mM	0.08mM	3mM	10mM	-	
Phospholipids	0.75mM	3.75mM	0.02mM	0.2mM	2mM	0.3mM	0.5mM
Sodium	148mM	319mM	34mM	106mM	218mM	-'	
Chloride	106mM	203mM	59mM	69mM	125mM	-	
Phosphate	29mM	-	-	-	-	-	-
Acetic acid	-	144mM	-	-	-	-	-
Maleic acid	-	-	-	19mM	55mM	76mM	30mM
Oleate	-	-	-	-	0.8mM	0.1mM	0.2mM
Glycerol monoleate	-	-	-	-	-	5mM	-
Sodium Cholate	-	-	-	-	-	0.15mM	0.6mM
Sodium OH	-	-	-	-	-	120mM	34mM
Tris	-	-	-	-	-	45mM	31mM

References:
[1]Dissolution testing as a prognostic tool for oral drug absorption: immediate release dosage forms.
Dressman, J. B.; Amidon, G. L.; Reppas, C.; Shah, V. P. ; Pharm.Res.1998, 15(1), 11–22.
[2]Biorelevant Dissolution Media Simulating the Proximal Human Gastrointestinal Tract: An Update
Ekarat Jantratid and Jennifer Dressman; Dissolution Technologies | August 2009, p.21-25 - Article[]
[3]Comparison of the Solubility and Dissolution of Drugs in Fasted-State Biorelevant Media (FaSSIF and FaSSIF-V2)
Mathew Leigh, Bastian Kloefer, and Michael SchaichDissolution Technologies | August 2013, pp.44-50. Article[].

•Other biorelevant media :

FaSSCoF Buffer (Fasted State Simulated **Colonic** Fluid) #BFWUJ0-COFAS01-10L
To test fasted prandial state of **colon** dissolution (pH7.8)

FeSSCoF Buffer (Fed State Simulated Colonic Fluid) #BFWUK0-COFES01-10L
To test fed prandial state of colon dissolution (pH6.0)

FEDGAS (Simulated **Stomach** Fluid) pH6 (early), pH4.5(Intermediate), pH3(late)
To test oral drug in dissolution media simulating **stomach** fluids after a high-fat FDA meal
3 different fluids (early/intermediate/late stages after dosing) give new insights into food effects on drug absorption
Designed for dissolution tests with USP Apparatus 1 or 2
Straightforward HPLC analysis with no need for extraction
Buffer and syringe filters included so you can start testing immediately

Dog FaSSIF/FaSSGF #ANF1H0-DOGFAS01-1L-10L-4x1L
To test Dog FaSSIF (makes 1L) or Dog FaSSGF (makes 50L)

•Buffers : simply dilute the concentrate to the amount of buffer you require and combine with SIF powder #1A710 to make in secunds ready-to-use high quality FaSSIF/FeSSIF/FaSSGF media :

FaSSIF Buffer Concentrate #B49IQ0-FASBUF01-6L-10X6L
FeSSIF Buffer Concentrate #B49IO0-FESBUF01-3L-10X3L
FaSSGF Buffer Concentrate #B49IP0-FASGBUF01-6L-10X6L

•Consumables : Syringe Filters

Other products (solubility)

JBS Solubility Kit #BP2520 - Highlight
Protein Solubility Screening Kit #HO5230
split GFP fold-n-Glow Protein Solubility assay #JV4990 - Highlight
Extraction and Detergents'[]

Information inquire

Reply by Fax : +33 (0) 4 70 03 82 60 or email at interbiotech@interchim.com

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