

CORRIGENDUM

Tables 2, 4 and 5 published in *J. Mol. Med.* 73:123–132 (1995) were composed in a manner allowing misinterpretation. Therefore, these tables are presented here in a structurally modified version.

REVIEW

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Receptors and G proteins as primary components of transmembrane signal transduction

Part 2. G proteins: structure and function

Table 2 Covalent modifications of G protein α subunits

¹ functional uncoupling of receptor-G-protein interaction
² also modification of $G\alpha_i$ by lauric acid and unsaturated fatty acids (C-14:2, C-14:1)
³ in platelets additionally acylation of $G\alpha_i$, $G\alpha_q$, $G\alpha_z$, $G\alpha_{13}$ by arachidonic acid
⁴ substoichiometric phosphorylation; unknown physiological role
⁵ unknown physiological role
⁶ inhibition of pertussis toxin-sensitive PI response

ADP-ribosylation		
Cholera toxin: constitutively activated G protein		$G\alpha_s$ (Arg ^{186/201}), $G\alpha_t$ $G\alpha_{11-3}$, $G\alpha_{o1-2}$
Pertussis toxin: inactivated $\alpha\beta\gamma$ heterotrimer ¹ sequence motif:...CGA Φ (C-terminus)		$G\alpha_{i1-3}$, $G\alpha_{o1-2}$, $G\alpha_i$
Acylation		
Myristoylation ² (cotranslational, irreversible) sequence motif:...MGXXXS/T...? (N-terminus) enzyme: N-myristyl transferase		$G\alpha_{i1-3}$, $G\alpha_{o1-2}$, $G\alpha_i$, $G\alpha_z$
Palmitoylation ³ (posttranslational, reversible) sequence motif:...MGC...? (N-terminus)		$G\alpha_{i1-3}$, $G\alpha_z$, $G\alpha_{o1-2}$, $G\alpha_s$, $G\alpha_{11-13}$
Phosphorylation		
cAMP-dependent protein kinase ⁴		$G\alpha_i$?, $G\alpha_s$?
Protein kinase C ⁵		$G\alpha_z$, (Ser ^{16/27}), $G\alpha_{i2}$
cGMP-dependent protein kinase ⁶		$G\alpha_{o1-3}$

Table 4 Posttranslational modifications of G protein γ subunits

¹ A = aliphatic amino acid, X \neq Φ
² abbreviations of amino acids: Ala = alanine, Cys = cysteine, Glu = glutamic acid, Leu = leucine, Met = methionine, Ser = serine
³ members of monomeric GTPases

	sequence motif:...CAAX ¹ (C-terminus)	
(1) Cysteine-polyisoprenylation		
CAAX: X = Ala ² , Cys, Glu, Met, Ser	(a) farnesyl transferase (C-15)	$G\gamma_1$, ras-family ³
CAAX: X = Leu	(b) geranylgeranyl transferase I (C-20)	$G\gamma_2$, $G\gamma_3$, $G\gamma_5$?, $G\gamma_7$?
CCXX; CXC	(c) geranylgeranyl transferase II (C-20)	rab-family ³
(2) Endoproteolytic cleavage of three C-terminal amino acids		
(3) Cysteine carboxymethylation		

Table 5 Effectors regulated by G protein α subunits and $\beta\gamma$ complexes

^a recently it was shown that a PI-3 kinase (p110 γ) cloned and sequenced from a U 937 cDNA library is activated by both G protein α and $\beta\gamma$ subunits
ref: Stoyanov, B., Volinia, S., Hanck, T., Rubio, I., Loubtchenkov, M., Malek, D., Stoyanova, S., Vanhaesebroeck, B., Dhand, R., Nürnberg, B., Gierschik, P., Seedorf, K., Hsuan, J.J., Waterfield, M.D., Wetzker, R. (1995): Cloning and characterization of a G protein-activated human phosphatidylinositol-3 kinase, *Science*, in press

	α subunit	$\beta\gamma$ complex
cGMP phosphodiesterase	↑	
β ARK		↑
ras-regulating proteins		↑
PI-3 kinase- γ^a	↑	↑
Phospholipases C- β	↑	↑
Adenylyl cyclases	↑, ↓	↑, ↓
Ca ²⁺ channels	↑, ↓	
Cl ⁻ channels	↑	
Na ⁺ channels	↑, ↓	
K ⁺ ch. (inw. rect. ATP regul.)	↑	↑