



27 February 2004
CPMP/867/04

**COMMITTEE FOR PROPRIETARY MEDICINAL PRODUCTS (CPMP) OPINION
FOLLOWING AN ARTICLE 31 REFERRAL**

CALCITONINS CONTAINING MEDICINAL PRODUCTS

International non-proprietary name (INN): Calcitonin

BACKGROUND INFORMATION

Calcitonin has been used since 1973 when injectable forms became available for the treatment of osteoporosis-related indications. In 1987 preparations for intranasal use were put on the market. The indications for which calcitonin has been approved varied within the Member States and included, prevention and treatment of osteoporosis from different aetiologies, bone pain due to osteolysis or osteoporotic fractures, Paget's disease, hypercalcaemia of malignancy and Sudeck syndrome. Calcitonin from different origins is approved in all EU Member States and has been used in clinical practice for more than 20 years.

In April 2000, The Netherlands notified the EMEA and submitted grounds for a referral under Article 31 of Council Directive 2001/83/EC (corresponding to Article 12 of Directive 75/319/EC as amended for referrals triggered before 18 December 2001), which is appended to this opinion.

The Marketing Authorisation Holders provided written explanations by 4 September 2000. Supplementary information was provided by 14 September 2001 and 1 March 2002. Oral explanations were given by the Marketing Authorisation Holders on 16 October 2002.

Upon consideration of all available data, the CPMP adopted an opinion on 21 November 2002. This opinion recommended the maintenance of the Marketing Authorisations for calcitonins containing medicinal in the indications stated in the Summary of Product Characteristics are set out in Annex III.

The list of product names concerned is given in Annex I. The scientific conclusions are provided in Annex II, together with the amended Summary of Product Characteristics in Annex III.

On the basis of the CPMP Opinion, the European Commission issued a Decision on 13 June 2003.

ANNEX I

LIST OF THE NAMES, PHARMACEUTICAL FORMS, STRENGTHS OF THE MEDICINAL PRODUCTS, ROUTES OF ADMINISTRATION, MARKETING AUTHORISATION HOLDERS, PACKAGING AND PACKAGE SIZES IN THE MEMBER STATES

National Marketing Authorisations

<u>Member State</u>	<u>Marketing Authorisation Holder</u>	<u>Invented name</u>	<u>Strength</u>	<u>Pharmaceutical Form</u>	<u>Route of administration</u>	<u>Packaging</u>	<u>Content (concentration)</u>	<u>Package size</u>
Italy	A. Menarini Industrie Farmaceutiche Riunite S.R.L. Via Sette Santi, 3 IT-50131 Firenze	Osteotonina	50 IU/ml 100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1ml	5
		Osteotonina Spray	200 IU/dose	Nasal spray, solution	nasal use	Vial	(12 doses)	1
		Osteotonina	400 IU/2ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Vial	Multidose 2 ml	
Italy	Alfa Wassermann S.P.A. Contrada S. Emidio 65020 Alanno ITALY	Tonocalcin	50 IU 100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Aventis Pharma S.P.A. Piazzale Turr, 5 IT-20100 Milano	Rulicalcin	50 IU 100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Laboratorio Chimico Garant S.R.L. Via Melchiorre Gioia, 47 IT-20100 Milano	Salmocalcin	50 IU 100 IU	Solution for injection	Intramuscular use Intravenous use	Ampoule	1ml	
Italy	Dompe' Farmaceutica SPA Via S. Martino, 12 IT-20122 Milano	Prontocalcin	50 IU/0,5 ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	0,5 ml	6
		Prontocalcin	100 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5

Italy	Esseti Farmaceutici S.P.A. Via dei Mille, 40 IT-80046 Napoli	Biocalcin	50 IU/ml 100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	F.I.R.M.A. SPA Via di Scandicci, 37 IT-50143 Firenze	Calciben Fiale	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Calciben Fiale	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Calciben Spray	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(12 doses)	1
Italy	Francia Farmaceutici Industria Farmaco Biologica S.R.L. Via dei Pestagalli, 7 20138 Milano ITALY	Miadenil	50 IU/ml 100 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5
Italy	Istituto Biochimico Nazionale Savio SRL Via E. Bazzano, 14 IT-16019 Ronco Scivia	Porostenina	50 IU/ml 100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use	Ampoule	1 ml	5
Italy	L P B Istituto Farmaceutico SPA Strada Statale 233 (Varesina) Km 20,5 IT-21040 Origgio	Miacalcic 50 Fiale	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Miacalcic 100 Fiale	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Miacalcic Spray	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(12 doses)	1

Italy	Molteni Farmaceutici L. Molteni E C. Dei F .Lli Alitti Societa' di Esercizio S.P.A. Strada Statale 67 Tosco Romagnola IT-50018 Frazione Granatieri-Scandicci	Calcitene	50 IU	Solution for injection	Injectable use	Ampoule	1 ml	5
		Calcitene	100 IU	Solution for injection	Injectable use	Ampoule	1 ml	
Italy	La.Fa.Re. S.R.L. Via Sacerdote Benedetto Cozzolino, 77 IT-80056 Ercolano Resina (NA)	Salmofar	50 IU	Solution for injection	Intramuscular use Subcutaneous use	Ampoule	1 ml	
		Salmofar	100 IU	Solution for injection	Intramuscular use Subcutaneous use	Ampoule	1 ml	5
Italy	Laboratorio Italiano Biochimico Farmaceutico Lisapharma S.P.A. Via Licinio 11-15 IT-22036 Erba	Calco	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Calco	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Magis Farmaceuticini S.P.A. Via Cacciamali, 34 36 38A IT-25128 Brescia	Catonin	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use		1 ml	5
Italy	Novartis Farma S.P.A. Strada Statale 23	Calcitonina Sandoz Fiale	50 IU	Solution for injection	Intramuscular use Intravenous use	Ampoule + Syringe	1 ml	Ampoule 1 ml + 5 syringes

	Km 20,5 IT-21040 Origgio (VA)				Subcutaneous use			
		Calcitonina Sandoz Fiale	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule + Syringe	1 ml	Ampoule 1 ml + 5 Syringes
		Calcitonina Sandoz Spray	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(12doses)	1 vial
Italy	Nuovo Consorzio Sanitario Nazionale S.R.L. Via Svetonio, 6 IT-00136 Roma	Osteovis	50 IU/ ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Osteovis	100 IU/ ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Pierre Fabre Italia S.P.A Via G.G. Winckelmann, 1 IT-20146 Milano	Ellecalcin	50 IU/ ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Procter & Gamble Holding S.P.A. Viale Cesare Pavese, 385 IT-00144 Roma (Rep: Mrs Silvia Etock:T:39 06 500 90058, F:39 06 500 90092	Carbicalcin	0.25 mg	Powder for solution solution for injection	Subcutaneous use	Ampoule	1 ml	5
		Calcitonina 50 Armour	50 IU/0.5 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe	0.5 ml	6 s

		Calcitonina 100 Armour	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe	1 ml	5
Italy	Pulizer Italiana S.R.L. Via Tiburtina, 1004 IT-00156 Roma	Calciosint	50 IU/ ml 100 IU/ ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	Rottapharm S.R.L. Via Valosa di Sopra, 9 IT-20052 Monza	Sical 50	50 IU/ml	solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Sical 100	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Sical 200	200 IU/neb	Nasal spray, solution	Nasal use			
Italy	Salus Researches S.P.A. Via Aurelia, 58 IT-00165 Roma	Ipocalcin Fiale	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Ipocalcin Fiale	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Italy	San Carlo Farmaceutici SPA Torre Maggiore IT-00040 Santa Palomba Pomezia	Calcioton	50 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5
		Calcioton	100 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5
Italy	Sigma-Tau Industrie Farmaceutiche Riunite SPA Viale Shakespeare,	Eptacalcin	50 IU/0,5 ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	0,5 ml	6 x 0,5 ml + 6 syringes

	47 IT-00144 Roma							
		Eptacalcin	100 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5 x 1 ml + 5 syringes
Italy	GlaxoSmithkline S.p.A Via Zambelletti IT-20021 Baranzate di Bollate (Milano)	Turbocalcin		Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	
Italy	So.Se.Pharm S.R.L. Societa'Di Servizio per L'industria Farmaceutica Ed Aff Via dei Castelli Romani, 22 IT-00040 Pomezia (Roma)	Steocin	50 IU	Powder for solution for injection	Intramuscular use Subcutaneous use	Ampoule +ampoule solvent	1 ml + 2 ml	6 x 1 ml + 6 amp solvent
		Steocin	100 IU	Powder for solution for injection	Intramuscular use Subcutaneous use	Ampoule + Ampoule solvent	1 ml + 2 ml	5 x 1 ml + 5 amp solvent
	Tosi Farmaceutici S.A.S. Corso della Vittoria, 12/B IT-28100 Novara	Osteocalcin	50 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5
		Osteocalcin	100 IU/ml	Solution for injection	Intramuscular use Intravenous use	Ampoule	1 ml	5
	FAGEN S.S. 233 (Varesina) Km. 20.5 Origgio Varese	Calcitonina Fagen	200 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1 vial
Germany	ct-Arzneimittel GmbH Lengeder Str. 42a	Calcitonin von ct nasenspray	100 IU/dose	Nasal spray solution	Nasal use	Spray container	1,39 ml (14 doses)	1

	D-13407 Berlin							
		Calcitonin von ct nasenspray	100 IU/dose	Nasal spray solution	Nasal use	Spray container	2,78 ml (28 doses)	1
		Calcitonin 50 von ct Amp.	50 IU/ml	Solution for injection	Subcutaneous use	Ampoule		5,10,20, 50
		Calcitonin 100 von ct Amp.	100 IU/ml	Solution for injection	Subcutaneous use	Ampoule		5,10,20, 50
Germany	Ratiopharm GmbH Graf-Arco-Str. 3 D-89079 Ulm	Calcitonin-Ratiopharm nasenspray	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	1,39 ml (14 doses)	1
		Calcitonin-Ratiopharm nasenspray	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	2,78 ml (28 doses)	1
		Caltonin Ratiopharma nasenspray	100 IU/dose	Nasal spray, solution	Nasal use	Vial		
		Caltonin nasenspray	100 IU/dose	Nasal spray, solution	Nasal use	Vial		
		Calcitonin-Ratiopharm 50	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 10, 20, 50
		Calcitonin-Ratiopharm 100	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 10, 20, 50
		Lachscaltonin – ratiopharm 50	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	
		Lachscaltonin –	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	

		ratiopharm 100						
Germany	Jenapharm GmbH & Co. KG Otto-Schott-Str. 15 D-07745 Jena	Ostostabil 50 I.E	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe/Ampoule	1 ml ampoule	Pre-filled syringe: 5, 25 Ampoules 5, 10, 20 x1ml
		Ostostabil 100 I.E	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe/Ampoule	1 ml ampoule	Pre-filled syringe: 5, 25 Ampoules 5, 10, 20 x1ml
Germany	Rotexmedica GmbH Arzneimittelwerk Bunsenstr. 4 D-22946 Trittau	Calcitonin 50 I.E. - Rotexmedica	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5, 10, 20, 50
		Calcitonin 100 I.E - Rotexmedica	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5, 10, 20, 50
Germany	Hexal AG Industriestr. 25 D-83607 Holzkirchen	Osteoposan 50	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 10, 20, 50 (5x10)
		Osteoposan 100	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 10, 20, 50 (5x10)
		Calcibio 50	50 IU	Solution for injection	Intravenous infusion Intramuscular injection Subcutaneous injection	Ampoule	1 ml	5, 10, 20, 50 (5x10)
		Calcibio 100	100 IU	Solution for injection				
Germany	TAD Pharma GmbH Heinz-Lohman-Str. 5 D-27472 Cuxhaven	Osteos 50	50 IU	Solution for injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	5, 10, 25
		Osteos 100	100 IU	Solution for injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	5, 10, 25

Germany	Wieb Pharm Vertriebs GmbH Johann-Sebastian- Bach Str. 45 D-59457 Werl	Calcitonin Wieb 50 I.E	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml (50 I.E/ml)	5, 20, 50 (5x10)
		Calcitonin Wieb 100 I.E	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml (100 I.E/ml)	5, 20, 50 (5x10)
Germany	Exterius Helathcare BmbH Robert-Kock-Str 2 D-51674 Wiehl	Calcitonin Exterius 50 I.E.	50 IU/ml	Solution for injection	Injectable use	Pre-filled syringe	1 ml	5, 25
		Calcitonin Exterius 100 I.E.	100 IU/ml	Solution for injection	Injectable use	Pre-filled syringe	1 ml	5, 25
		Calcitonin Opfermann 50 I.E.	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 20, 50, 100
		Calcitonin Opfermann 100 I.E.	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 20, 50, 100
Germany	Azupharma GmbH & Co Dieselstr.5 D-70839 Gerlingen	Azucalcitoni n 50 I.E.	50 IU/ml	Solution for injection	Injectable use	Ampoule		5, 20, 50
		Azucalcitoni n 100 I.E.	100 IU/ml	Solution for injection	Injectable use	Ampoule		5, 20, 50
		Azucalcit 50 I.E.	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5, 20, 50
		Azucalcit 100 I.E.	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule		5, 20, 50

		Calcitonin AZU Nasenspray	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	2 ml	1, 3 vials
Germany	Stadapharm GmbH Stadastr. 2-18 D-61118 Bad Vilbel	Calcitonin stada 50 IE	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5, 10, 20, 50
		Calcitonin Stada 100 IE	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5, 10, 20, 50
	MIBE GmbH Arzneimittel Luise-Ullrich-Str. 6 D-82031	Calcitex 50	50 IU	Solution for injection	Injectable use	Vial + solvent ampoule		
		Calcitex 100	100 IU	Solution for injection	Injectable use	Vial + solvent ampoule		3, 5, 10, 20, 50, 60
Germany	Novartis Pharma GmbH Roonstr. 25 D-90429 Nuernberg	Cibacalcin 0,25 mg	0,25 mg	Powder and solvent for solution for injection	Intramuscular use Intravenous use Subcutaneous use	Vial + solvent ampoule	(50 IU/ml after reconstitution)	5, , 50, 60 vials + ampoules
		Cibacalcin 0,5 mg	0,5 mg	Powder and solvent for solution for injection	Intramuscular use Intravenous use Subcutaneous use	Vial + solvent ampoule	(100 IU/ml after reconstitution)	5, 50 vials + ampoules
		Human- Calcitonin- Novartis	0,5 mg	Powder and solvent for solution for injection	Injectable use	Vial + solvent ampoule		5, 50
		Miacalcic 200 I.E. Nasenspray	200 IU/neb	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Ostulex 200 I.E. Nasenspray	200 IU/neb	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Karil 50 I.E. Injektionsloesung	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,5 ml	5, 50, 100

		Karil 50 I.E. Injektionsloesung	50 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe	0,5 ml	5, 10, 20
		Karil 100 I.E. Injektionsloesung	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule		5, 10, 50, 100
		Karil 100 I.E. Injektionsloesung	100 IU	Solution for injection	Injectable use	Prefilled syringe	1 ml	5, 10, 100
		Karil 100 I.E. Nasenspray	100 IU	Nasal spray, solution	Nasal use	Spray container	2 ml	1
		Karil 200 I.E. Nasenspray	200 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
Germany	Aventis Rhone-Poulenc-Rorer GmbH nattermannallee 1 Koeln D-50829	Calsynar 100	100 IU	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe		5 x 1 ml, 2 x 5 à 1 ml, 5 x 5 à 1 ml
Greece	Proel S.A. Koronis E.G. Dilou 9 GR-12134 Peristeri	Nylex	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Nylex	100 IU/ml	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Nylex	100 IU/ml	Nasal spray, solution	Nasal use	Vial	4 ml	(28 doses)
Greece	Pharmacia & Upjohn Hellas A.E. Mar. Antypa 62-66 GR-14121 N.	Ostosalm	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5

	Irakleio, Attiki							
		Ostosalm	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use Intr.For.Inf	Ampoule	1 ml	5
		Ostosalm	50 IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Ostosalm	100 IU/dose	Nasal spray, solution	Nasal use	Vial	1 ml	(7 doses)
		Ostosalm	100 IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
Greece	Iasis Chemipharma A.E. Ag. Kon/nou 40 GR-15124 Marousi	Calco	100IU/ml	Solution for injection	Intramuscular use Subcutaneous use	Ampoule	1 ml	5
		Calco	100IU/ml	Nasal spray, solution	Nasal use	Vial	0,9 ml	(7 doses)
		Calco	100IU/ml	Nasal spray, solution	Nasal use	Vial	1,8 ml	(14 doses)
		Calco	100IU/ml	Nasal spray, solution	Nasal use	Vial	3,6 ml	(28 doses)
Greece	Aventis Pharma A.E.B.E. 2, Aftokratoros Nikolaou str. GR-17671 Athens	Calsynar	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use	Ampoule	1 ml	5
		Calsynar	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use	Prefilled syringes	1 ml	5
		Calsynar	100 IU/dose	Nasal spray, solution	Nasal use	Vial	0,5 ml	(7 doses)
		Calsynar	100 IU/dose	Nasal spray, solution	Nasal use	Vial	Monodose	(7, 14, 28 Doses)
		Calsynar	200 IU/dose	Nasal spray, solution	Nasal use	Vial	1, 4 ml	(14 doses)

Greece	Pharmanel Pharmaceutical S.A. Marathonos 106 GR-15344 Gerakas	Tosicalcin	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use Intr. For Inf.	Ampoule	1 ml	5
		Tosicalcin	100 IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml (15 doses)	2 ml
		Tosicalcin	100 IU/dose	Nasal spray, solution	Nasal use	Vial	4 ml (28 doses)	4ml
		Tosicalcin	200 IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml (14 doses)	2 ml
Greece	Alvia. S.A 18 km Athens- Marathonos Ave. Gr-153 44 Pallini	Calciplus solution for injection	100 IU/ampou le	Solution for injection		Ampoule		5
		Calciplus nasal spray 100 IU/dose	100 IU/puff	Nasal spray	Nasal use	Pulverisations		14, 28
		Calciplus nasal spray, 200 IU/dose	200 IU/puff	Nasal spray	Nasal use	Pulverisations		14
Greece	Genepharm S.A. 18th Klm Marathonos Ave. GR-15344 Pallini	Genecalcin	100 IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Genecalcin	100 IU/dose	Nasal spray, solution	Nasal use	Vial	4 ml	1x 4ml (28 doses), 2x4 ml (56 doses)
Greece	Alfa Wassermann Distributor: Demo Abee 21st Klm Athina- Lamias Ave. GR-14565 Athens	Tonocalcin	100 IU/dose	Nasal spray, solution	Nasal use	Vial	1,1 ml	(7 doses)
			100 IU/dose	Nasal spray, solution	Nasal use	Vial	2,1 ml	(14 doses)
			100 IU/dose	Nasal spray, solution	Nasal use	Vial	3,5 ml	(28 doses)

		Tonocalcin	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
Greece	Farmedia S.A. 2b, Algaiou Pelagous Str. GR-15341 Ag. Paraskevi Athens	Ostifix	100IU/ml	Solution for injection	Parenteral use	Ampoule	1 ml	5
		Ostifix	50IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Ostifix	100IU/dose	Nasal spray, solution	Nasal use			
Greece	Anfarm Hellas S.A. Acharnon 442 GR-11143 Athina	Miadenil	100IU/ml	Solution for injection		Ampoule	1 ml	5
Greece	Biomedica - Chemica S.A. 25 G. Lyra Str. 14564 Kiphisia Greece	Osticalcin	50IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	
		Osticalcin	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Norcalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(15 doses)
		Norcalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	4 ml	(28 doses)
		Norcalcin	50IU/ml	Solution for injection				
		Norcalcin	100IU/ml	Solution for injection		Ampoule	1 ml	5
Greece	V. Niadas & Sons S.A. Agias Marinas Str. GR-19002 Peania - Attica	Neostesin	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Neostesin	50IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Neostesin	50IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)

		Neostesin	100IU/dose	Nasal spray, solution	Nasal use			
Greece	Kleva E.P.E. Parnithos Ave. 189 GR-13671 Acharnai	Alciton	50IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Alciton	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Alciton	100IU/dose	Nasal spray, solution	Nasal use	Vial	0,9 ml	(7 doses)
		Alciton	100IU/dose	Nasal spray, solution	Nasal use	Vial		1x14 doses x 10IU/dose
		Alciton	100IU/dose	Nasal spray, solution	Nasal use	Vial		1x28 doses 1 100IU/dose
Greece	Rafarm A.E.B.E. Korinthou 12 GR-15451 N. Psychiko	Rafacalcin	50IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Rafacalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(14 doses)
		Rafacalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	4 ml	(28 doses)
		Rafacalcin	50IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Rafacalcin	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
Greece	Elpen S.A. Pharmaceutical Industry 21st Klm Marathonos Ave. GR-19009 Pikermi	Tendolon	50IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Tendolon	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5

		Tendolon	100IU/dose	Nasal spray, solution	Intramuscular use Intravenous use Subcutaneous use	Vial	2 ml	(14 doses)
		Tendolon	100IU/dose	Nasal spray, solution	Intramuscular use Intravenous use Subcutaneous use	Vial	4 ml	(28 doses)
Greece	FARAN S.A. Production & Marketing of Medicines Achaïas & Trizinias 145 64 Kifissia Greece	Latonina	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringes	1 ml	5
		Latonina	100IU/dose	Nasal spray, solution		Vial	2 ml	
		Latonina	100IU/dose	Nasal spray, solution		Vial	3,5 ml	(28 doses)
Greece	Boehringer Ingelheim Hellas S.A. Ellinikou 2 GR-16777 Elliniko	Crocalcin	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Crocalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	(15 doses)
		Crocalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	4 ml	(28 doses)
Greece	Vocate Ltd. Gounari 150 GR-16674 Ano Glyfada	Iricalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	1,3 ml	(14 doses)
		Iricalcin	100IU/dose	Nasal spray, solution	Nasal use	Vial	3,3 ml	(28 doses)
		Iricalcin	100IU/ml	Solution for injection		Ampoule	1 ml	5
Greece	ADIPHARM Ltd. 54 Marni Street GR-10437 Athens Greece	Salmoten	100IU/ml	Solution for injection		Vial	2 ml	(14 doses)

		Salmoten	100IU/ml	Solution for injection		Vial	4 ml	(28 doses)
		Salmoten	100IU/dose	Nasal spray, solution	Nasal use	Ampoule	1 ml	5
		Salmofar	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use			
Greece	Novartis (Hellas) S.A.C.I 12 km of National Road no1 GR-14451 Metamorphosi Attikis, Athens	Cibacalcin	0,5mg	Powder for solution for injection				
		Miacalcic	100IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Miacalcic	100IU/dose	Nasal spray, solution	Nasal use	Vial	2 ml	1
		Miacalcic	200IU/dose	Nasal spray, solution	Nasal use	Vial		(14 doses)
Ireland	Novartis Pharmaceuticals UK Ltd t/a Sandoz Pharmaceuticals Frimley Business Park Frimley Camberley Surrey UK	miacalcic	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Miacalcic	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5

		miacalcic	400 IU/2 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Multidose vial	2 ml	1
		miacalcic	100 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		miacalcic	200 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		ostulex	200 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		miakaril	200 IU	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
Ireland	Rhone-Poulenc Rorer 50 Kings Hill Avenue West Malling Kent ME19 4AH	calsynar	100 IU	Solution for injection	Nasal use	Vial	(14 doses)	1
		calsynar	200 IU	Solution for injection	Nasal use	Vial	(14 doses)	1
Netherlands	Novartis Pharma B.V. Raapopseweg 1 NL-6824 DP Arnhem PO-Box 241 NL-6800 LZ Arnhem	Calcitonine- Sandoz	100 IU/ml	Solution for injection	Intravenous use	Ampoule		5
Portugal	Novartis Farma, Produtos Farmacêuticos SA Rua do Centro Empresarial, Edifício 8 Quinta da Beloura 2710-444 Sintra Portugal	Cibacalcina	0,25 mg/ml	Powder and solvent for solution for injection	Intramuscular use Subcutaneous use	Ampoules	1 ml	5

		Cibacalcina	0,5 mg/2ml	Powder and solvent for solution for injection	Intramuscular use Subcutaneous use	Ampoules	2 ml	5
		Miacalcic	50 IU/ml 100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Miacalcic	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Miacalcic 200 Spray Nasal	200 IU/dose	Nasal spray, solution	Nasal use	Spray container	1 unit	1 x 14 doses, 1 x 28 doses
Portugal	Aventis Pharma Lda. PRT Estrada Nacional 249, km 15 P.º Box 39 2726-922 Mem Martins Portugal	Calsyn	100 IU/2ml	Solution for injection	Intravenous use	Vial	2 ml	6
		Calsyn	400 IU/2ml	Solution for injection	Intravenous use	Vial	2 ml	1
		Calsyn	50 IU/0,5 ml	Solution for injection	Intravenous use	Pre-filled syringe	0,5 ml	2, 5
		Calsyn Monospray	100 IU/dose	Nasal spray, solution	Nasal use	Bottle	1	1 x 14 doses, 1 x 28 doses
		Calsyn	100 IU/dose	Nasal spray, solution	Nasal use	Bottle	1	1 x 7 doses
Portugal	Laboratórios Delta, Lda Rua Direita noº148 Massamá 2745-751 Queluz Portugal	Bionocalcin	50 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Bionocalcin 100	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Bionocalcin	50 IU/dose	Nebuliser, solution	Nasal use	Spray container	1 unit	1 x14 doses

		Bionocalcin 100	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	1 unit, 2 units	1 x 14 doses, 1 x 28 doses
Portugal	BYK Portugal – Produtos Quimicos e Farmacêuticos, Lda Quinta da Fonte- Edifício Gil Eanes 2780 –730 Paço D’Arcos Portugal	Calcimon	50 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Calcimon	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoule	1 ml	5
		Calcimon	50 IU/dose	Nebuliser, solution	Nasal use	Spray container	2 ml	1 x14 doses
Portugal	Pharmacia Corporation Laboratórios, Lda. Avenida do Forte, 3- Edificio Suécia II P.O. Box 206 2795-505 Carnaxide Portugal	Salcat	100 IU/dose	Nasal spray, solution	Nasal use	Bottle	1 unit	1 x 21 units, 1x 28 units
		Salcat	200 IU/dose	Nasal spray, solution	Nasal use	Bottle	1 unit	1 x 7doses, 1x 14 doses
Portugal	Euro Labor Laboratórios de Síntese Química e Especialidades Farmaceuticas, S.A, Rua Alfredo Silva, n.º16, P.O. Box 60270 2720-028 Amadora Portugal	Ostinate 100	100 IU	Nasal spray, solution	Nasal use	Bottle	1 unit	1 x 7doses, 1x 14 doses, 1 x 28 doses
		Ostinate 200	200 IU/dose	Nasal spray, solution	Nasal use	Bottle	1 unit	1x 14 doses, 1 x 28 doses

Portugal	PH&T, SpA Via Ariosto, 34 20145 Milano Italy	Neostesin	50 IU/dose	Nasal Spray, solution	Nasal use	Bottle	1 ml	1
		Neostesin	50 IU/dose	Nasal Spray, solution	Nasal use	Bottle	2 ml	1
Portugal	Sociedade de Produtos Farmacêuticos Wander Lda. Rua do Centro Empresarial, Edifício 8 Quinta da Beloura 2710-444 Sintra Portugal	Calcitonina Wander 200	200 IU/dose	Nebuliser, solution	Nasal use	Spray container	1 unit	1 x 14 doses
Portugal	Laboratório Normal, Produtos Farmacêuticos,SA. Rua do Centro Empresarial, Edifício 8 Quinta da Beloura 2710-444 Sintra Portugal	Osseocalcina 200	200 IU/dose	Nasal spray, solution	Nasal use	Spray container	1 unit	1 x 14 doses, 1 x 28 doses
Portugal	Probios Produtos Químicos e Farmacêuticos Lda Rua João Chagas 53 – A, 2º- Escritório 201 1495-072 Algés Portugal	Calogen	100 IU/ml	Solution for injection	Intramuscular use Subcutaneous use Intravenous use	Ampoules	1 ml	6
		Calogen	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	1 unit	1 x 14 doses, 1 x 28 doses

Portugal	Zambon-Produtos Farmacêuticos, Lda. Rua Comandante Enrique Maya nº1. 1500-370 Lisboa Portugal	Tonocaltin 100	100 IU/dose	Nebuliser solution	Nasal use	Bottle	1 unit	1 x 7 doses, 1 x 14 doses
Portugal	Sanofi-Syntelabo-Produtos Farmacêuticos SA Praça Duque de Saldanha nº1-4º 1050-094 Lisboa	Calco	50 IU/ml 100 IU/ml	Solution for injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	5
		Calco	50 IU/dose 100 IU/dose	Nasal spray, solution	Nasal use	Bottle	0,9 ml	1
Portugal	Rotta Farmacêutica, Unipessoal Lda. R. Direita da Massamá, 150 2745-751 Sintra	Bionocálcio 100	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	1 unit (2 ml)	1
Spain	Almirall - Prodesfarma S.A. General Mitre, 151 08022 Barcelona SPAIN	Calcitonina Almirall injectable	100 IU/ml	Injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	10
		Calcitonina Almirall 200 UI monodosespray nasal	200 IU/dose	Nasal spray, solution	Nasal use	Vial		Monodose spray 28 vials
		Calcitonina Almirall 200 UI multidose spray nasal	200 IU/vial	Nasal spray, solution	Nasal use	Vial	(14 doses)	Monodose spray 1
		Calcitonina Almirall 200 UI multidose spray nasal	200 IU/vial	Nasal spray, solution	Nasal use	Vial	(28 doses)	Monodose spray 2

		Calogen spray nasal 100 aerosol	100 IU/NEB	Nasal spray, solution	Nasal use	Vial	(28 doses)	1 multidose vial
		Calogen injectable	100 IU/ml	injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	10
Spain	ICN-Iberica c/Casanova, 27-31 08757 Corbera de Llobregat Barcelona SPAIN	Calcitonina Hubber 100 UI injectable	100 IU/ml	Solution for injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	10
		Calcitonina Hubber 200 UI solucion para pulverizacion nasal multidosis	200 IU/neb	Nasal spray, solution	Nasal use	Vial	14 doses	
		Calcitonina Hubber Nasal 200 UI monodosis	200 IU/neb	Nasal spray, solution	Nasal use	Vial	14 doses	
		Calcitonina Hubber Nasal 200 UI monodosis	200 IU/neb	Nasal spray, solution	Nasal use	Vial	28 doses	
Spain	Aventis Pharma S.A. Martinez Villergas 52 28027 Madrid SPAIN	Calsynar 100	100 IU/vial	Vial	Subcutaneous use Intramuscular use	Vial		1 vial + 1 ampoule solvent, 10 vials + 10 ampoule solvent
		Calsynar 50	50 IU/vial	Vial	Subcutaneous use Intramuscular use	Vial	2 ml	10 vials 2 ml+ 10 ampoule solvent
		Calsynar intranasal 200 UI monodosis	200 IU	Nasal spray, solution	Nasal use	Vial	(28 doses)	

		Calsynar Intranasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	1 vial multidoses	1 vial 14 neb
		Calsynar Intranasal	200 IU/dose	Nasal spray, solution	Nasal use		(28 doses)	
Spain	Novartis Pharmaceutica S.A. Gran Vía de les Corts Catalanes, 764 08013 Barcelona SPAIN	Miacalcic 100	100 IU/ml	Injection	Patenteral use	Ampoules	1 ml	1, 10
		Miacalcic 200 Spray nasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	1 vial 2 ml (14 doses/vial)	1
		Miacalcic 200 Spray nasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	2 vials (2 ml/vial) (14 doses/vial)	2
Spain	Altana Pharma S.A Francisca Delgado 11 Parque Empressarial Arroyo de la Veja 28 108 Alconbendas Madrid SPAIN	Kalsimin 100 UI	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10
		Kalsimin 50 UI	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10
		Kalsimin Nasal	50 IU/neb	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
Spain	Faes S.A. Máximo Aguirre, 14 Lejana Vizcaya SPAIN	Oseototal 100 IU	100 IU/ml	Injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	1, 10
		Oseototal 200 Spray nasal Aerosol	200 IU/neb	Nasal spray, solution	Nasal use	Vial	2 ml (14 doses)	1, 2

Spain	Laboratorio Padro S.A Gran Vía de les Corts Catalanes, 764 08013 Barcelona SPAIN	Ospor Spray nasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	2 ml (14 doses/vial)	2
		Ospor Spray nasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	4 ml (14 doses/vial)	2
Spain	Laboratorios CENTRUM S.A Sagitario 14 03006 Alicante Spain	Osteobion 200 Solución para pulverización nasal	200 IU/neb	Nasal spray, solution	Nasal use	Vial	(14 doses)	1 vial
Spain	Rottapharm Carretera de Barcelona, 2 46132 Almacera (Valencia) SPAIN	Sical 50 UI injectables	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10
		Sical 100 UI injectables	100 IU/ml	Solution for injection	Injectable use	Ampoule		
		Sical nasal	50 IU/neb	Nasal spray, solution	Nasal use	Vial	2 ml	2
Spain	Zambon c/Haresme s/n Pol. Urvasa Sta Perpetua de Mogoda Barcelona SPAIN	Tonocaltin 100 IU Spray nasal	100 IU/ml	Solution for injection	Injectable use	Ampoule		1, 10
		Tonocaltin 200 UI Solución para pulverización nasal	200 IU/dose	Nasal spray, solution	Nasal use	Vial	2,1 ml (14 pulv)	14 pulv

		Tonocaltin 50 UI ampoule	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10
Spain	Alcalá Farma , S.L Ctra. M-300, km. 29,920 Alcalá de Henares (Madrid) Spain	Carbicalcin Spray Nasal	40 IU/neb	Nasal spray, solution	Nasal use	Vial	(24 doses)	1
		Carbicalcin inyectable	40 IU/ml	Solution for injection	Intramuscular use	Ampoule	1 ml	10
Spain	Ferrer Internacional, S.A. Grand Via Carlos III, 94 08028 Barcelona SPAIN	Diatin inyectable	40 IU/ml	Solution for injection	Injectable use	Ampoule	1ml	10
		Diatin spray nasal	40 IU/neb	Nasal spray, solution	Nasal use	Vial	(24 doses)	1
Spain	Cepa Schwarz Pharma S.L Puerta de la Castellana 141 Ed. Cuzco IV Planta 15 28046 Madrid Spain	Elcatonina CEPA inyectable	40 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10

		Elcatonina CEPA Spray nasal	40 IU/neb	Nasal spray	Nasal use	Vial	1	(24 doses)
Spain	I.F.C Industrial Farmaceutica Cantabria, S.A. C/ Arequipa, 1 28043 Madrid SPAIN	Elcatonina CEPA injectable	40 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	10
		Elcatonina CEPA Spray nasal	40 IU/neb	Nasal spray, solution	Nasal use	Vial	(24 doses)	1
		Elcatonina UR 40 UI aerosol	40 IU/neb	Nasal spray, solution	Nasal use	Vial	(24 doses)	1
Sweden	Novartis Läkemedel Novartis Sverige AB Box 1150 S-18311 Täby Sweden	Miacalcic	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use		1 ml	5
United Kingdom	Novartis pharmaceuticals UK Ltd Trading as: Sandoz pharmaceuticals Frimley business park Frimley camberley UK – Surrey GU16	Miacalcic	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoules		

	7SR							
		Miacalcic	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoules		
		Miacalcic	200 IU/ml	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Miacalcic	400 IU/2ml	Solution for injection	Injectable use	Vial	2 ml	1
United Kingdom	May & Baker Ltd 50 Kings Hill Avenue West Malling Kent ME19 4AH	Calsynar	100 IU/ml	Injection	Subcutaneous use Intramuscular use	Ampoule		1, 4, 5
		Calsynar	200 IU/ml	Injection	Subcutaneous use Intramuscular use	Ampoule		1, 4, 5
Austria	Novartis Pharma GmbH Brunner Straße 59 A-1235 Wien	calcitonin "Novartis" 100IE - Ampullen	100 IU/ml	Injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		calcitonin "Novartis" 50IE - Ampullen	50 IU/ml	Injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		calcitonin "Novartis" 100 I.E. - Nasalspray	100 IU/dose	Nasal spray, solution	Nasal use	Spray container	(16 doses)	1, 3

		calcitonin "Novartis" 50 I.E. - Nasalspray	50 IU/dose	Nasal spray, solution	Nasal use	Spray container	(14 doses)	1, 3
		Calcitonins "Novartis" 200 IE nasalspray	200 IU/dose	Nasal spray, solution	Nasal use	Spray container	(14 doses)	1
		calcitonin "Novartis" 100IE - Spritzampulle n	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5 ,20 , 25 , 5 x5
		cibacalcin 0,5 mg - Doppelkamm erspritzampul len	0,5mg/ml	Solution for injection	Injectable use	Syringe		1, 5, 5 x 5
		cibacalcin 0,5 mg - Trockensubst anz mit Lösungsmitte l	0,5mg	Powder	Injectable use	Vial		5 vials + 5 solvent 5 x 5 vials + 5 solvent
		Miacalcic 50IE - Ampullen -	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Miacalcic 100 I.E.- Nasalspray	100 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 dose)	1, 3
		Miacalcic 50 I.E.- Nasalspray	50 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1 , 3
		Miacalcic 200 I.E.- Nasalspray	200 IU/ml	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
Austria	F. Joh. Kwizda GesmbH. Dr Karl Lueger-Ring	Calco 100 mg Ampullen	100 mg/ml	Injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	5

	6 A- 1010 Wien							
		Calco 50 mg Ampullen	50 mg/ml	Injection	Subcutaneous use Intramuscular use	Ampoule	1 ml	5
Austria	UCB Pharma GesmbH Brünnerstraße 73/5 A-1210 Wien	Ucecal 50 I.E. Injectionslösu ng	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	1, 5, 5x5
		Ucecal 100 I.E. Injectionslösu ng	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	1, 5, 5x5
		Ucecal 100 I.E. Nasalspray	100 IU/ml	Solution for injection	Nasal use	Vial	0,1 ml	2,1 ml, 3,5 ml
		Ucecal 200 I.E. Nasalspray	200 IU/ml	Solution for injection	Nasal use	Vial	0,1 ml	2,1 ml, 3,5 ml
Austria	PHARMACIA & Upjohn Pharma- Handels GesmbH Oberlaaerstraße 247- 251 A-1100 Wien	casalm 100 I.E./ml - Spritzampulle n	100 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Prefilled syringe	1 ml	5, 5x5
		casalm 50 I.E./ml - Spritzampulle n	50 IU/ml	Solution for injection	Injectable use	Prefilled syringe	1ml	5, 5x5
Austria	Nycomed Austria St. Peter-Straße 25 A-4020 Linz Austria	ELCIMEN Ampullen	40 IU/ml	Solution for injection			1ml	5, 25
Belgium	Aventis Pharma SA- Boulevard de la Plaine 9 1150 Brussels Belgium	Calsynar Intranasal	100 IU/dose	Nasal spray, solution	Nasal use	Vial monodose	0,1 ml	14 vials 28 vials

		Calsynar Intranasal	100 IU/dose	Nasal spray, solution	Nasal use	Vial	1	(14 doses)
		Calsynar	50 UI/0,5 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule-syringe	0,5 ml	5, 15, 30
		Calsynar	100 UI/1 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule-syringe	1 ml	5, 15, 30
		Calsynar	400 UI/2 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Vial	2 ml	1 vial multidose
Belgium	Sanico N.V. Industrieterrein 4 2300 Turnhout Belgium	Calcivera	100 IU/0,1 ml	Nasal spray, solution	Nasal use		Monodose 0,1 ml	7 doses
Belgium	Novartis Pharma N.V. Medialaan 40 bus1 1800 Vilvoorde Belgium	Miacalcic Nasal	100 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1, 4
		Miacalcic Nasal	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Ostulex	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Miacalcic	50 IU/0,5 ml	Solution for injection	Injectable use	Prefilled syringe	0,5 ml	5,15, 30 x 0,5 ml
		Miacalcic	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Miacalcic	100 IU/ml	Solution for injection	Injectable use	Prefilled syringe	1 ml	5, 15, 30, x 1 ml
Belgium	Christiaens Pharma S.C. Chaussée de Gand	Steocalcin	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5

	615 1080 Brussels Belgium							
		Steocalcin	50 IU/ml	Solution for injection	Injectable use	Prefilled syringes	1 ml	51
		Steocalcin	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Steocalcin	100 IU/ml	Solution for injection	Injectable use	Prefilled syringes	1 ml	5, 15, 30 x 1 ml
		Steocalcin Nasal	100 IU/dose	Nasal spray, solution	Nasal use	Vial	1	(14 doses)
Belgium	GlaxoSmithKline S.A. Boulevard du Souverain 191 1160 Brussels Belgium	Carbicalcin	40 UI/0,1 ml	Nasal spray, solution	Nasal use	Vial	1,2 ml (12 doses)	1
		Carbicalcin	40 UI/1 ml	Solution for injection	Intramuscular use	Ampoule	1 ml	5
		Turbocalcin	40 UI/0,1 ml	Nasal spray, solution	Nasal use	Vial	1,2 ml (12 doses)	1
		Turbocalcin	40 UI/1 ml	Solution for injection	Intramuscular use	Ampoule	1 ml	5
Denmark	Novartis Healthcare AS Lyngbyvej 172 DK- 2100 København	Miacalcic	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Miacalcic Nasal	100 IU /dos	Nasal spray, solution	nasal use	Vial	(14 doses)	1
		Miacalcic Nasal	200 IU/ dos	Nasal spray, solution	nasal use	Vial	(14 doses)	1
Denmark	Aventis Pharma A/S Slotsmarken 13 DK-2970 Hørsholm	Calsynar	200 IU/ml	Solution for injection	Parenteral use			

Finland	Novartis Finland Oy Metsanneidonkuja 10 FI-02130 Espoo	miacalcic	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		miacalcic Nasal	100 IU/dos	Nasal spray, solution	nasal use	Bottle	(14 doses)	1
France	Specia 15 rue de la Vanne FR-92545 Montrouge Cedex Laboratoire AVENTIS 46, quai de la Rapée 75601 Paris Cedex 12	Calsyn	50 IU	Powder for solution for injection				1 vial 50IU + 1 ampoule 2 ml solvent 1 vial 50IU
		Calsyn	100 IU	Powder for solution for injection				1 vial 100IU + 1 ampoule solvent 1 vial 100IU
		Calsyn	50 IU/0.5 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,5 ml	1
		Calsyn	100 IU/1 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	1
France	Novartis Pharma S.A 2-4 rue Lionel Terray BP 308 FR-92506 Reuil Malmaison Cedex	Miacalcic 50 UI/1ml	50 IU/1 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Miacalcic 80 UI/0,8 ml	80 IU/0,8 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,8 ml	6
		Cibacalcine	0.25 mg	Powder and solvent for solution for injection	Intramuscular use Intravenous use Subcutaneous use	Powder ampoule solvent ampoule	(0,25 mg) + 1 mg	(1 ampoule of powder + 1 ampoule of solvent) x 5

		Cibacalcine	0.50 mg	Powder and solvent for solution for injection	Intramuscular use Intravenous use Subcutaneous use	Powder ampoule, solvent ampoule	(0,5 mg) + 1 mg	(1 ampoule of powder + 1 ampoule of solvent) x 5
France	GNR Pharma 49, avenue Georges Pompidou FR-92593 Levallois Perret cedex	Calcitonine GNR 50 UI/1ml	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Calcitonine GNR 80 UI/0.8 ml	80 IU/0.8 ml	Solution for injection	Injectable use	Ampoule	0,8 ml	6
France	Cephalon France 20 rue Charles Martigny 94700 Maisons-Alfort	Calcitonine L.lafon	50 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Calcitonine L.Lafon	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
France	Zambon France 13 rue Rene Jacques 92138 Issy les Moulineaux Cedex, France	Cadens Gé	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Cadens Gé	80 IU/0.8ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,8 ml	6
France	Laboratoires Pharmy II – Strategy senter 26, rue des Gaudines FR-78100 Saint German en Laye	Calcitonine Pharmy II	50 IU/ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	1 ml	5
		Calcitonine Pharmy II	100 IU/ml	Solution for injection		Ampoule	1 ml	5

France	Pharmaceutique Noroit 7, rue Jean-Baptiste Clément FR-94250 Gentilly	Staporos 50 UI/1ml	50 IU/ml	Solution for injection		Ampoule	1 ml	5
		Staporos 100 UI/1ml	100 IU/ml	Solution for injection		Ampoule	1 ml	5, 6
		Staporos 50 UI/1ml	50 IU/ml			Pre-filled syringe	1 ml	5
		Staporos 100 UI/1ml	100 IU/ml			Pre-filled syringe	1 ml	6
Luxembourg	Aventis Pharma SA- NV 9 Boulevard de la Plaine B-1050 Bruxelles	Calsynar Intranasal	100 IU/0,1 ml	Nasal spray, solution	Nasal use	Bottle	0,1 ml	14
		Calsynar	50 IU/0,5 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,5 ml	5, 15, 30
		Calsynar	100 IU/0,5 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Ampoule	0,5 ml	5, 15, 30
		Calsynar	200 IU/2 ml	Solution for injection	Intramuscular use Intravenous use Subcutaneous use	Bottle	2 ml	1
Luxembourg	Novartis Pharma GmbH Roonstrasse 25 D-90429 Nuernberg	Cibacalcin	0.25 mg	Powder for injection	Injectable use	Vial +solvent ampoule	0,25 mg	5, 20, 50, 60 vial + ampoule
		Cibacalcin	0,5 mg	Powder for injection	Injectable use	Vial +solvent ampoule	0,50 mg	5, 20, 50, 60 vial + ampoule
		Karil	50 IU/0.5 ml	Solution for injection		Prefilled syringe	0,5 ml	50, 100
		Karil	100 IU/ml	Solution for injection	Injectable use	Prefilled syringe	1 ml	50, 100

		Karil	50 IU/0,5 ml	Solution for injection	Injectable use	Ampoule	0,5 ml	5, 50, 100
		Karil	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5, 50, 100
		Karil	200 IU/dose	Nasal spray, solution	Nasal use	Bottle	2 ml	1
		Miacalcic	200 IU/dose	Nasal spray, solution	Nasal use	Bottle	2 ml	1
		Ostulex	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
Luxembourg	GlaxoSmithKline s.a. Rue du Tilleul, 13 1332 Genval Belgium	Carbicalcin	40 UI/1 ml	Nasal spray solution	Nasal use	Bottle	1 ml	1
		Carbicalcin	40 UI/2 ml	Nasal spray solution	Nasal use	Bottle	2 ml	1
		Carbicalcin	40 UI/1 ml	Solution for injection	Intramuscular	Ampoule	1 ml	5

Norway	Novartis Postbox 237, Økern, N- 0510 Oslo Norway	Miacalcic Nasal	200 IU/dose	Nasal spray, solution	Nasal use	Vial	(14 doses)	1 vial
		Miacalcic inj. 100 IE/ml	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5

Iceland	Thorarsen Lyf Lynghals 13 110 Reykjavik, Iceland	Miacalcic	100 IU/ml	Solution for injection	Injectable use	Ampoule	1 ml	5
		Miacalcic	100 IU/ml	Nasal spray, solution	Nasal use	Vial	(14 doses)	1
		Miacalcic	200 IU/ml	Nasal spray, solution	Nasal use	Vial	(14 doses)	1

ANNEX II

**SCIENTIFIC CONCLUSIONS AND GROUNDS FOR AMENDMENT OF
THE SUMMARIES OF PRODUCT CHARACTERISTICS PRESENTED BY THE EMEA**

SCIENTIFIC CONCLUSIONS

OVERALL SUMMARY OF THE SCIENTIFIC EVALUATION OF CALCITONINS CONTAINING MEDICINAL PRODUCTS (see Annex I)

Calcitonin has been used since 1973 when injectable forms became available for the treatment of osteoporosis-related indications. In 1987 preparations for intranasal use became available. The indications for which calcitonin has been approved varied within the MS and included, prevention and treatment of osteoporosis from different aetiologies, bone pain due to osteolysis or osteoporotic fractures, Paget's disease, hypercalcaemia of malignancy and Sudeck syndrome. Calcitonin from different origins is approved in all EU Member States and has been used in clinical practice for more than 20 years.

▪ OVERVIEW OF EFFICACY

A discussion on the efficacy of calcitonins containing medicinal products took place in CPMP based on the Rapporteur's and Co-Rapporteurs' Assessment Reports and the data presented by the MAHs. Considerations made on this issue are summarised below.

OSTEOPOROSIS RELATED INDICATIONS

- **Osteoporosis in post-menopausal women; treatment of osteoporosis in patients who have established low bone mineral density and/or radiographic evidence of vertebral degeneration of fractures; treatment of established postmenopausal osteoporosis**
- **Prevention of postmenopausal osteoporosis; prevention of fast loss of bone mass in healthy postmenopausal women with risk factors for osteoporosis**

There are numerous publications analysing the effects of calcitonin on bone mineral density or content in osteoporosis. In most of the studies, calcitonin was used intramuscularly or subcutaneously in doses varying from 50UI every second day to 100 UI every day. The studies are relatively small, the methods for measuring bone mass are limited, randomisation is insufficiently described and most studies are not blinded at all. In one study, where biopsies are done on 30 patients, there is no evidence of mineralisation defect and bone turnover is not abnormally suppressed.

Data on fractures, detailed in a case-control study, are very limited. No randomised controlled trials with fracture as primary endpoint has been performed.

*Therefore, the CPMP considered that **injectable calcitonin** lacks efficacy in the treatment of established postmenopausal osteoporosis.*

No trials are published in which the efficacy of injectable salmon calcitonin for the prevention of osteoporosis has been studied. However, several controlled studies show that calcitonin administered daily or intermittently, reduces bone resorption and increases bone mass or bone mineral density, especially at the lumbar spine in patients with postmenopausal osteoporosis. Furthermore calcitonin inhibits bone resorption by inducing an almost immediate quiescence of osteoclast motility, which is followed by a gradual retraction of the osteoclasts and in inhibiting other components of the osteoclasts playing a role in bone resorption. Therefore through its inhibitory effects upon osteoclast, calcitonin is successfully used for the therapy of disorders of bone loss with of rapid bone turnover.

*Therefore, the CPMP considered that **injectable calcitonin** shows efficacy in the prevention of acute bone loss due to sudden immobilisation such as in patients with recent osteoporotic fractures.*

Efficacy of intranasal calcitonin in "established" osteoporotic patients has been assessed in several prospective trials. Published studies show a slight increase of bone mass at the lumbar spine in patients receiving salmon calcitonin intranasally, as compared to placebo (calcium and vitamin D).

The evidence that calcitonin decreases vertebral fracture frequency was investigated in several often relatively small studies. The pivotal study for demonstrating efficacy of the intranasal formulation as treatment of postmenopausal osteoporosis is the PROOF study (Prevention Recurrence of Osteoporotic Fractures Study). The PROOF study was a randomised, double blind, placebo-controlled trial of five years duration in 1255 patients. The protocol of the PROOF study was amended and the main focus of interim and final analyses became the pair wise comparison of intranasal calcitonin 200 IU versus placebo on new and worsening fractures for the intention to treat group.

For non-vertebral fractures, especially hip-fractures, a significant reduction in fractures was measured for the 100 IU dose. However, the small number of hip and femoral fractures precluded a meaningful statistical analysis.

*Therefore the CPMP considered that **intranasal calcitonin** in a daily dose of 200 I.U. shows efficacy in the treatment of established postmenopausal osteoporosis in order to reduce the risk of vertebral fractures. A reduction in hip fractures has not been demonstrated.*

In studies in the prevention of post-menopausal osteoporosis with intranasal calcitonin the increment of bone mass was minimal (mean 1.9%), lower than with HRT, but no head-to-head comparisons have been reported. The increase occurred during the first 12 months; thereafter no further increase was measured. No fracture data are available.

*Therefore the CPMP considered that **intranasal calcitonin** lacks efficacy in the prevention of established postmenopausal osteoporosis.*

PREVENTION OF BONE LOSS DURING PROLONGED IMMOBILISATION, ESPECIALLY DURING PARAPLEGIA

For the indication “Prevention of bone loss during prolonged immobilisation, especially during paraplegia”, no literature was submitted by any of the MAHs further to the List of questions (CPMP/1307/00). A search in Medline by the assessor did not provide any relevant literature on this item.

Further to the List of Outstanding issues addressed to MAHs (CPMP/4421/00), two studies were discussed (Minaire P, Depassio J, Meunier P, Edouard C, et al. Calcitonin treatment of acute osteoporosis resulting from paraplegia. Osteoporosis Proceeding of the International Symposium on osteoporosis 1984; 111-118 and Minaire P, Meunier P, Edouard C, Messy P et al. Acute osteoporosis in paraplegic patients: pathophysiology and effects of treatment with calcitonin or dichlorodimethylene diphosphonate in osteoporosis. Menczel J & co. John Wiley & sons, p 412-428). In these studies the effect of salmon calcitonin was studied after immobilisation in paraplegic human. The results of both studies are not consistent because the second study does not confirm the positive effect found in the first, where it is suggested that salmon calcitonin might prevent bone loss during immobilisation due to paraplegia.

*The CPMP considered that **injectable and intranasal calcitonin** lacks efficacy in the indication “Prevention of bone loss during prolonged immobilisation, especially during paraplegia.*

OSTEOPOROSIS AND PAIN

- **Pain caused by vertebral fractures due to postmenopausal osteoporosis;**
- **Treatment of fractures syndrome in recent acute and painful osteoporosis crush**
- **Osteoporosis induced bone pain (chronic pain)**

Numerous clinical studies have been conducted with calcitonin in the treatment of vertebral crush syndrome in osteoporosis, which seems to suggest an analgesic effect of calcitonin, but only few placebo-controlled studies have been conducted. No comparative studies have been performed with analgesics.

Studies have been undertaken to determine whether the analgesic effect of calcitonin might be used in pain due to osteoporosis, particularly in the vertebral crush fracture syndrome. Whereas open studies have indicated relief of pain, the adequate evaluation of the end-point should be based on placebo controlled randomised studies.

None of the trials has given any radiographic definition of vertebral fracture at baseline among the included patients. The studies have included a small sample size and no sample size calculation was performed. The delay between occurrence of fracture and treatment has not been reported in 3 studies. The population demographic data were usually lacking. Various doses of calcitonin have been used among clinical trials. The evaluation criteria varied among studies. Data reports were usually lacking or have insufficient quality. The statistical method of most studies were neither explained nor detailed. Repeated measurements were performed but not evaluated in an adequate statistical way. Patient withdrawals for side effects were neither analysed nor reported.

Therefore, the CPMP considered that **injectable and intranasal calcitonin** lacks efficacy in the treatment of Pain caused by vertebral fractures due to postmenopausal osteoporosis, treatment of fractures syndrome in recent acute and painful osteoporosis crush and in osteoporosis induced bone pain (chronic pain).

BONE PAIN DUE TO MALIGNANCY

Several published studies regarding the use of calcitonins in this indication, including several double blind placebo controlled and numerous uncontrolled studies were assessed by the CPMP.

Further to the assessment of these studies, the CPMP felt that it is unclear which dose is optimal as the effects are variable and a clear dose response has not been defined. The optimal duration of use is unclear.

Therefore, the CPMP considered that **injectable and intranasal calcitonin** lacks efficacy in the treatment of bone pain due to malignancy.

PAGET'S DISEASE

Calcitonin has been used for treatment of Paget's disease of bone since the late 1960s and there are many published reports on its efficacy. Remission of symptoms, radiological manifestations and/or biochemical markers is obtained in about 50-70% of patients with an 80% reduction in markers of bone turnover.

Therefore, the CPMP considered that **injectable calcitonin** shows efficacy in the treatment of Paget's disease.

The CPMP found that the efficacy for the injectable formulation has been sufficiently demonstrated based on the data derived from literature. The opinion differs on the efficacy of intranasal calcitonin in this indication. In a small study by Gagel et al (1988) 7 patients were treated with intranasal calcitonin and 8 with subcutaneous injected calcitonin. In the group treated by nasal route the decrease in the serum levels of alkaline phosphatase was 33% at the end of 3 months of treatment, whereas in the group treated by subcutaneous route the decrease was 40%. The differences between both groups were not statistically significant.

Therefore, the CPMP considered that **intranasal calcitonin** lacks efficacy in the treatment of Paget's disease.

HYPERCALCAEMIA OF MALIGNANCY.

Treatment of malignant hypercalcaemia is based on the treatment of the underlying disease (if possible), rehydration and drug treatment aimed at decreasing excessive osteoclastic bone resorption. Marketing Authorisation Holders had submitted published data on the efficacy of injectable calcitonin in the treatment of malignant hypercalcaemia. It was shown that calcitonin reduces serum calcium by inhibition of bone resorption and by increasing renal tubular resorption of calcium.

Therefore the CPMP considered that **injectable calcitonin** shows efficacy in the treatment of hypercalcaemia of malignancy.

Further to the List of Outstanding Issues adopted in December 2001, no new data were provided to support the efficacy of intranasal calcitonin.

Therefore, as this indication is not supported by scientific data, the CPMP considered that **intranasal calcitonin** lacks efficacy in the treatment of hypercalcaemia of malignancy.

SUDECK SYNDROME (ALGODYSTROPHY)

There are hardly any prospective, randomised trials in this indication. Limitations of treatment study designs include use of variable criteria, lack of placebo-treated groups, failure to control for symptom duration, and small patient numbers.

Therefore, the CPMP considered that **injectable and intranasal calcitonin** lacks efficacy in the treatment of Sudeck syndrome (algodystrophy).

▪ OVERVIEW OF SAFETY

Calcitonin is usually very well tolerated. The WHO database listed adverse event reports from 28 countries over a period of approximately 25 years. The most commonly reported terms were nausea (250), vomiting (148) and flushing (145).

During the 24 year period from 12 December 1975 to 25 October 1999 a total of 160 reports listing 323 adverse drug reactions related to salmon calcitonin containing products were received by the Drug Alert Unit of the Committee on Safety of Medicines at the Medicine Control Agency. There were three events of fatal outcomes. The fatal events were one non-specific tachycardia and two cases of hypercalcaemia.

Severe allergic reactions are rare, chronic use has been associated with antibody formation, but the clinical relevance of this antibody response is unknown.

Based on the above, the use of calcitonins is considered safe.

▪ OVERALL CONCLUSION ON BENEFIT/RISK

The CPMP concluded that *injectable calcitonins* have not proven therapeutic efficacy in the prevention of postmenopausal osteoporosis, the Sudeck syndrome (algodystrophy), the treatment of osteoporosis induced pain, the treatment of established postmenopausal osteoporosis and the bone pain due to malignancy and that *intranasal calcitonins* have not proven therapeutic efficacy in the prevention of post-menopausal osteoporosis, the Paget's disease, the hypercalcaemia of malignancy, the Sudeck syndrome (algodystrophy), the treatment of osteoporosis induced pain and the bone pain due to malignancy.

Furthermore the CPMP considered that according to the available data *injectable calcitonins* are effective in the prevention of acute bone loss due to sudden immobilisation such as in patients with recent osteoporotic fractures, the Paget's disease and the hypercalcaemia of malignancy, and that *intranasal calcitonins* can be effective in the treatment of established postmenopausal osteoporosis in order to reduce the risk of vertebral fractures. However, a reduction in hip fractures has not been demonstrated.

Therefore the CPMP considered that the benefit/risk balance of calcitonins containing medicinal products in the agreed restricted indications is favourable and the Marketing Authorisations should be maintained. A Summaries of Product Characteristics is amended according to changes detailed in Annex III of the CPMP Opinion.

GROUNDINGS FOR AMENDMENT OF THE SUMMARIES OF PRODUCT CHARACTERISTICS

Whereas

- The Committee considered the referral made under Article 31 of Council Directive 2001/83/EEC as amended, for calcitonins containing medicinal products;

-The Committee agreed that *injectable calcitonins containing medicinal products* lack therapeutic efficacy in the prevention of postmenopausal osteoporosis, the Sudeck syndrome (algodystrophy), the treatment of osteoporosis induced pain, the treatment of established postmenopausal osteoporosis and the bone pain due to malignancy and that *intranasal calcitonins containing medicinal products* lack therapeutic efficacy in the prevention of post-menopausal osteoporosis, the Paget's disease, the hypercalcaemia of malignancy, the Sudeck syndrome (algodystrophy), the treatment of osteoporosis induced pain and the bone pain due to malignancy.

-The Committee agreed that *injectable calcitonins containing medicinal products* have a place in the prevention of acute bone loss due to sudden immobilisation such as in patients with recent osteoporotic fractures, the treatment of Paget's disease and the treatment of hypercalcaemia of

malignancy and that ***intranasal calcitonins containing medicinal products*** have a place in the treatment of established postmenopausal osteoporosis in order to reduce the risk of vertebral fractures. A reduction in hip fractures has not been demonstrated.

- The Committee, as a consequence, considered the benefit/risk balance of ***injectable calcitonins containing medicinal products*** to be favourable in the prevention of acute bone loss due to sudden immobilisation such as in patients with recent osteoporotic fractures, the Paget's disease and the hypercalcaemia of malignancy.

- The Committee, as a consequence, considered the benefit/risk balance of ***intranasal calcitonins containing medicinal products*** to be favourable in the treatment of established postmenopausal osteoporosis in order to reduce the risk of vertebral fractures. A reduction in hip fractures has not been demonstrated.

As a result, the CPMP has recommended the maintenance of the Marketing Authorisations for calcitonins containing medicinal products (see Annex I) as amended in accordance with the Summaries of Product Characteristics set out in Annex III and under the conditions set out in Annex IV.